July 7, 1958

Paper Trade Journal

Evaluation and Administration of a Research Department

Color & Sulphide Problems in Water Treatment at Hudson

B. C. Forest Products Mill Described in Pictures

N. Y. & Penn Trains Mechanics in Bearing Maintenance

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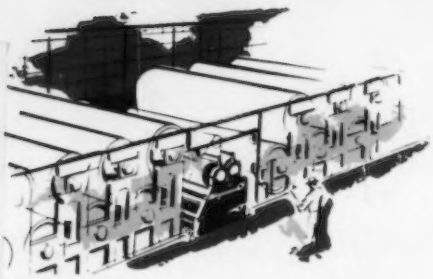
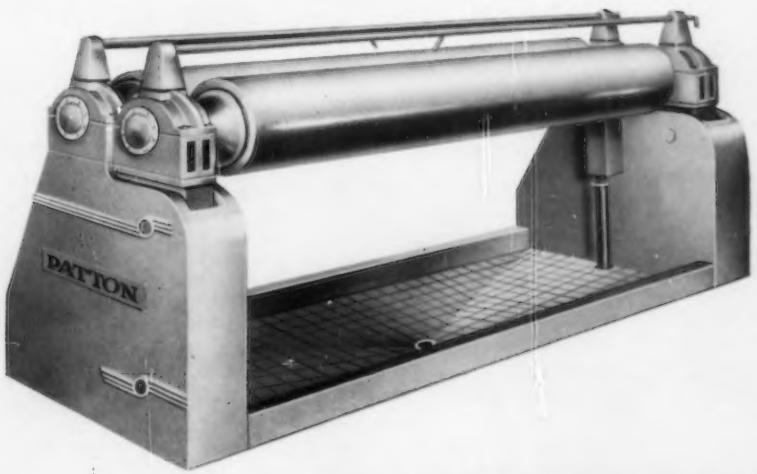


HORIZONTAL SIZE PRESSES



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Local warehousing and convenient packaging are two additional advantages which make Cities Service Pacemaker Wax popular with many users.

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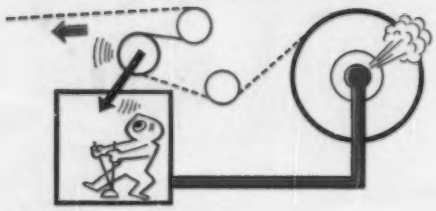

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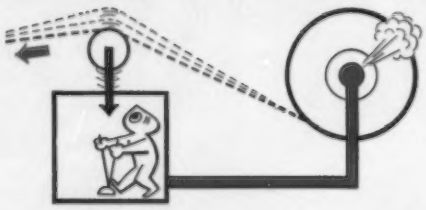

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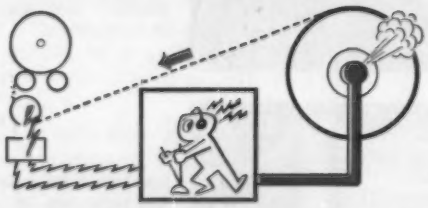

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REMEMBER THESE DATES

July 28-Aug. 1: TAPPI Engineering Conference, Multnomah Hotel, Portland, Ore.

Sept. 10-12: Third International Mechanical Pulping Conference sponsored jointly by Technical Section, Canadian Pulp and Paper Assn. and Technical Assn. of Pulp and Paper Industry; Chateau Frontenac, Quebec City.

TRENDS 9

NEWS BRIEFS 11

FEATURE ARTICLES

Evaluation and Administration of a Research Department 20

B. C. Forest Products Described in Many Pictures and Few Words 22

Color and Sulphide Problems in Water Treatment at Hudson Pulp and Paper Corp. 32

How New York & Penn Trains Mechanics in Bearing Maintenance 40

PAPER PEOPLE 13
NEWS OF CONVERTERS 16
NEW EQUIPMENT FOR CONVERTERS .. 18
NEW EQUIPMENT AND SUPPLIES 44
SUPERINTENDENTS ASSN. NEWS 48
NEW LITERATURE 50
PRICES 56
OBITUARIES 58
FIGURES OF THE WEEK 58
NEWS OF SUPPLIERS .. 62
CLASSIFIED ADVERTISING 66
ADVERTISERS INDEX .. 70

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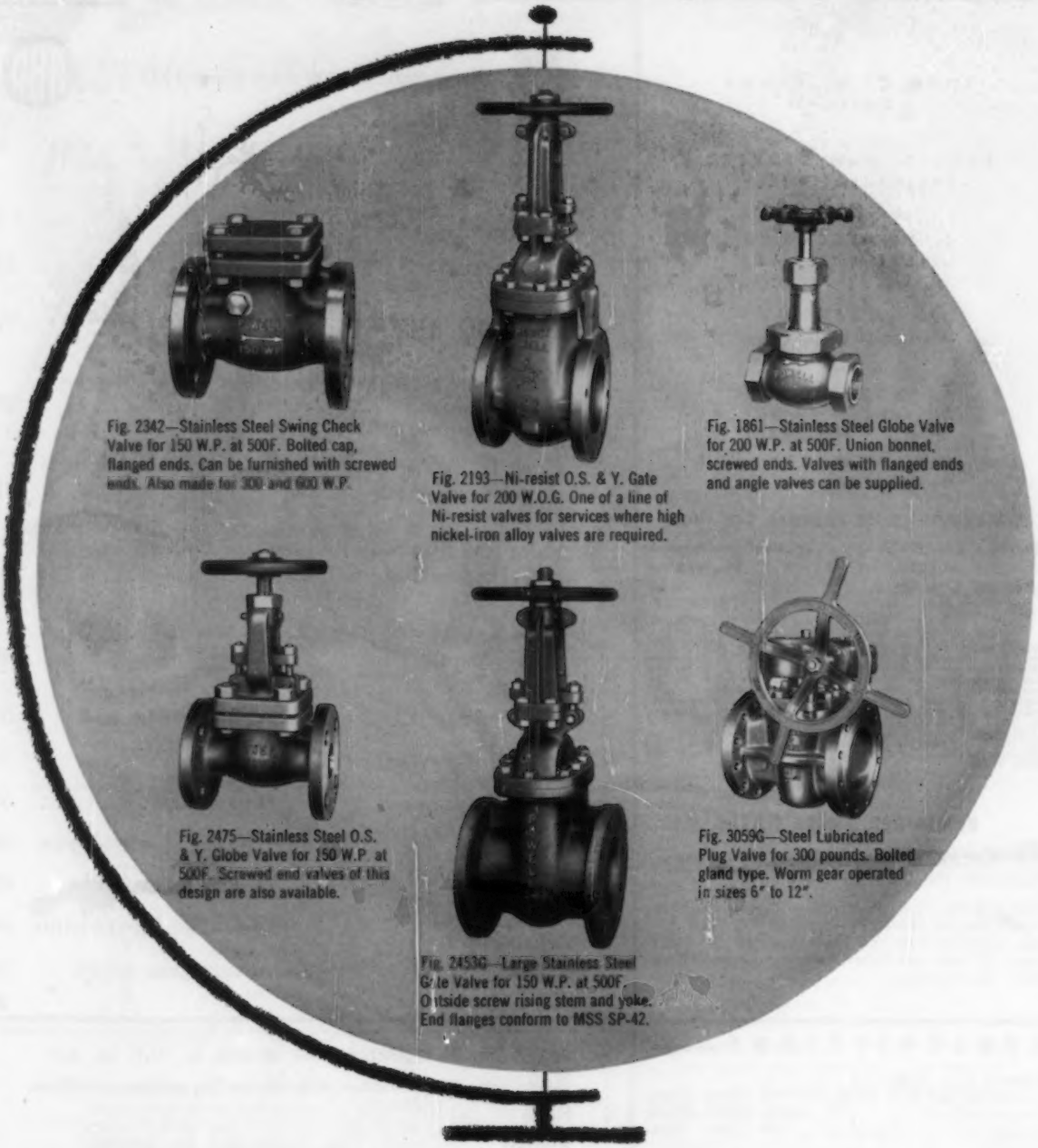

Fig. 2342—Stainless Steel Swing Check Valve for 150 W.P. at 500F. Bolted cap, flanged ends. Can be furnished with screwed ends. Also made for 300 and 600 W.P.

Fig. 2193—Ni-resist O.S. & Y. Gate Valve for 200 W.O.G. One of a line of Ni-resist valves for services where high nickel-iron alloy valves are required.

Fig. 1861—Stainless Steel Globe Valve for 200 W.P. at 500F. Union bonnet, screwed ends. Valves with flanged ends and angle valves can be supplied.

Fig. 2475—Stainless Steel O.S. & Y. Globe Valve for 150 W.P. at 500F. Screwed end valves of this design are also available.

Fig. 2453G—Large Stainless Steel Gate Valve for 150 W.P. at 500F. Outside screw rising stem and yoke. End flanges conform to MSS SP-42.

Fig. 3059G—Steel Lubricated Plug Valve for 300 pounds. Bolted gland type. Worm gear operated in sizes 6" to 12".

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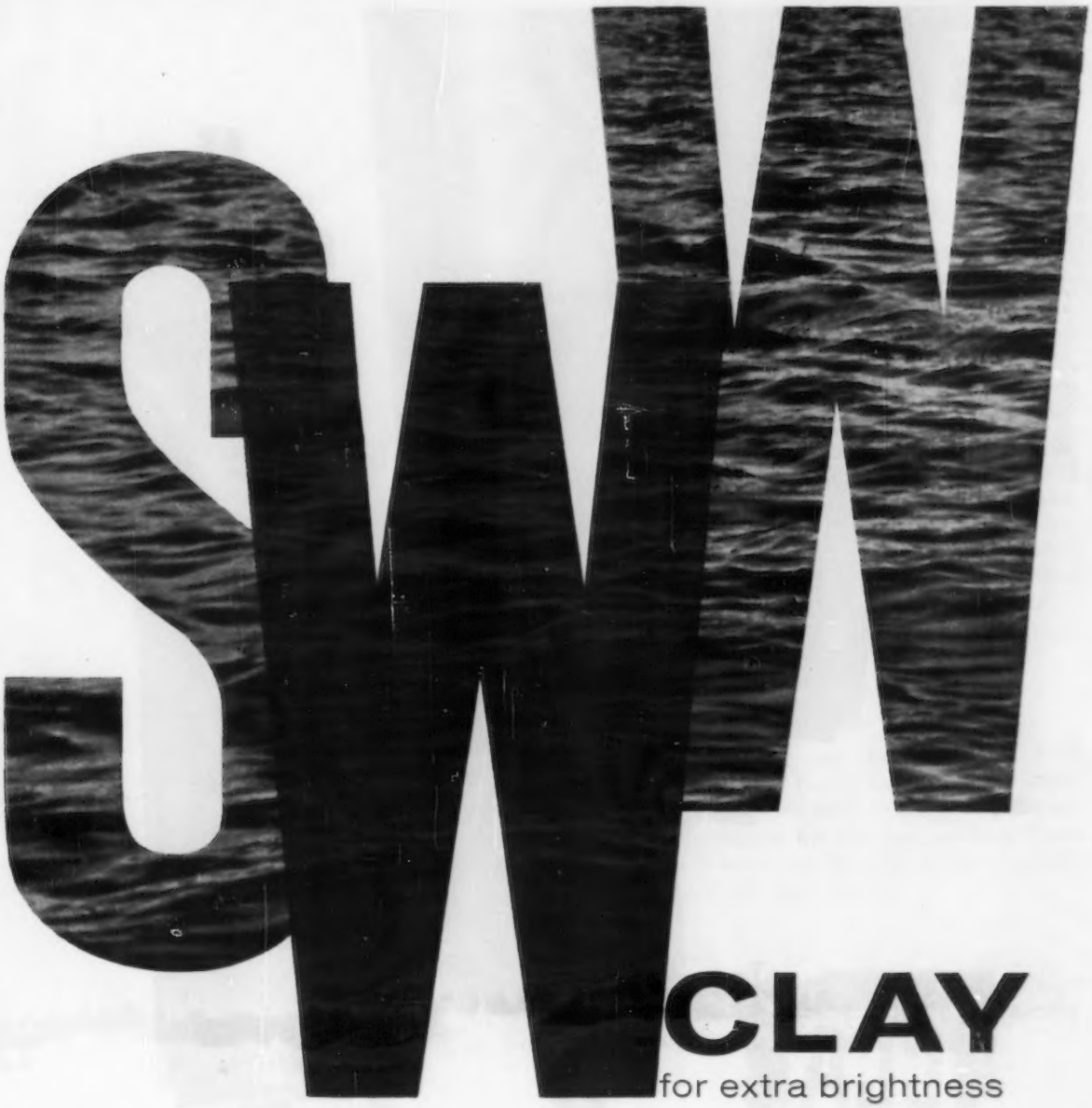

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January-May Production

Preliminary estimates for the first five months of this year indicate that paper and board production totaled 12,485,152 tons in comparison to 13,025,369 tons produced in the comparable period last year, a decline of 4.4%. Paper production declined from 5,845,292 tons to 5,595,400 tons, off 4.3%; paperboard from 6,004,593 tons to 5,727,481 tons, down 4.6%; building paper from 529,268 tons to 485,654 tons, off 8.2%; building board increased from 646,216 tons to 649,617 tons, an increase of 0.5%. (According to A.P.P.A.)

First Three Weeks of June

Paper mill operating rates for the first three weeks of June were 86.3% (May 86.4%) and board mills 85.0% (May 84.0%). Both the paper and board mill figures were depressed by very low rate of operation for the first week of June, since then the figures have been considerably higher, notably board (See Figures of the Week for details).

Set-Up Boxes Off 7.3% to Date

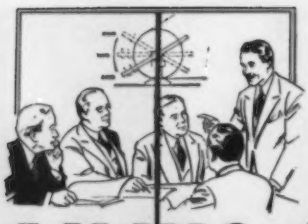
Value of set-up box shipments for the first five months were off 7.3% from the January-May period of last year, according to the National Paper Box Manufacturers Assn.

Pulp Production Picture for May

Pulp production in May was off 8% from a year ago, according to the U.S. Pulp Producers Assn. Production to date for the first five months was off 5% from a year ago. Export shipments for the year to date are down 15% with deliveries to Latin America showing the only gain (+23%) but shipments to Europe (biggest customer area) were off only 2%. Stocks on hand have gained 29% since January first and are 30% higher than at end of May 1957.

Good Advice Worth Pondering

"Never mind the business outlook—keep on the outlook for business," stated A. S. Baer, general manager of the Building Products Div. of L. Sonneborn Sons, Inc., to a salesmen's meeting. This is very apt advice to salesmen and holds some truth for all of us.



Smart People are buying the Rice Barton

TRAILING BLADE COATER

At coating discussions across the nation the number one subject has been, and still is, the Rice Barton Trailing Blade Coater. Forward looking mills have gone beyond the talking stage and to date over 42 Rice Barton Trailing Blade Coaters have been purchased.

The high standards of quality and printability set by these installations make the Rice Barton Trailing Coater the coater that you should buy.

Remember — Don't Gamble.

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Paper Machinery Builders Since 1837

Construction on Alberta Pulp Mill Said to Start by Sept. 1

Construction of Alberta's second pulp mill is expected to start by September 1, G. D. McNab, president of Alberta Forest Products Corp. Ltd., told a meeting of the company's shareholders.

The company's plans call for the building of a mill between Edmonton and Fort Saskatchewan, to manufacture pulp and newsprint.

Earlier this year a pulpwood lease was signed with the Alberta government giving Alberta West Forest Products an assured supply of high-grade pulpwood.

Mr. McNab said Alberta West plans to install the latest equipment and employ engineering techniques which have been used during the last two years by large pulp and paper mills in the southern United States.

Champion Paper Expansion Plans

Champion Paper & Fibre Co.'s annual report, just released, gives interesting information about the company's plans both current and future.

Major production improvements during the year included further modernization of paper machines at the Ohio Division, continued construction of a new high-speed paper machine at the Carolina Division and the rebuilding of a paper machine at the Texas Division.

Planning for fiscal 1959 contemplates expenditures of some $20 million or about the same as last year.

The past year also witnessed these new undertakings: Start of construction of a pulp mill in the State of Sao Paulo, Brazil, the acquisition of half ownership in Vaculite Corp., Cambridge, Mass., and exploration of possibilities for a pulp and paper mill in Solano County, Calif.

New Pulp Mill for Portugal

Establishment of a new wood pulp mill in the Setubal area some 30 miles south of Lisbon has been approved by the Portuguese government as part of the new 6-year economic development plan for 1959-64.

Sociedade Industrial de Celuloses, S.A.R.L., (SOCEL) was organized to manufacture pulp primarily from eucalyptus wood.

No raw material other than eucalyptus is to be used without official authority. Government reforestation activities, using eucalyptus trees, have been carried on for some time in the Setubal area.

Initial annual output of the mill is to be 30,000 metric tons of bleached eucalyptus pulp. Manufacture of pulp for paper and for synthetic fibers is to be started within three and five years, respectively.

St. Regis to Sell Panelyte Division

Dr. W. G. Malcolm, president of American Cyanamid Co., and William R. Adams, president of St. Regis Paper Co., have announced that negotiations are under way for the sale to Cyanamid of Canada Ltd. of the Canadian business and assets of the Panelyte Division of St. Regis Paper Co. (Canada) Ltd., a subsidiary of St. Regis. Cyanamid of Canada Ltd., with headquarters in Montreal, is a wholly owned subsidiary of American Cyanamid Co.

Terms of the agreement, which will be subject to approval by the boards of directors of both Canadian companies, have not been finally determined but will cover the transfer to Cyanamid of Canada Ltd. of the St. Regis plant at St. Jean, Quebec, which will be used to produce Cyanamid's Formica laminated plastic.

Paper aand Board Production

According to the American Paper and Pulp Assn., the ratio of the United States production to mill capacity for the week ending June 21, 1958, was 88.2 per cent compared with 87.4 per cent revised for the preceding week. The ratio was 92.1 per cent for the corresponding week a year ago.

The paperboard production ratio for the week ending June 21, 1958, was 88 per cent compared with 90 per cent for the preceding week and 93 per cent for the corresponding week last year.

(Detailed statistics on page 58.)

Halifax Paper to Install Another Machine

Halifax Paper Co. has announced plans for the installation of a new paper machine at its Roanoke Rapids, N. C. mill. The new machine will be a twin of the 246-inch wire Beloit machine which was placed in operation five years ago. The only notable difference is that the new machine will be driven by an electric motor instead of a turbine. Financing is being arranged by the parent company, Albermarle Paper Mfg. Co. of Richmond, Va.

The mill now has a 500-ton-per-day kraft pulp mill, the Kamyr pulp machines and three fourdriniers with trim of 82, 94, and 228 inches. Production is various grades of kraft wrappings, bag, multiwall sack and boards.

Hudson Announces Work-Scholarship Winners

Two high school graduates will have the opportunity to attend college as a result of the scholarship program sponsored by Hudson Pulp & Paper Corp.

Under the "Work-Scholarship" program, students prepare for degrees in forestry, chemistry, chemical, mechanical, electrical, civil or industrial engineering. Arrangements with universities such as Georgia Tech and Auburn enable the scholarship winners to alternate study and job training at the Palatka mill each quarter semester.

This year's winners are Donald Frank Wilson of Green Cove Springs, Fla. and William Robert Wilson of Palatka.

Our Roving Reporter Sets Sail

Eben M. Whitcomb, formerly with Eastern Corp.'s South Brewer and Lincoln, Maine, mills, left last week on his own boat for a one-year trip around Europe. He plans to visit as many pulp and paper mills as possible and will send regular reports for our readers on his visits and observations of the plants.

Eben M. Whitcomb

Mr. Whitcomb is a mechanical engineer and for eight years was assistant paper mill superintendent at Eastern Lincoln mill. More recently he has been technical service engineer at the company's South Brewer plant.

Mr. Whitcomb's boat is the 40-foot auxiliary schooner, the Maryleigh. His home port is Port Ellsworth, Maine. Accompanying Mr. Whitcomb are his wife, father and two friends. We are looking forward to many interesting reports for our readers.

Canadian Production News for May

Canadian paperboard production and consumption gained sharply in May as compared with May 1957. Output for the month was 86,202 tons as compared with 76,840 tons a year ago. Container grade production increased to 43,850 tons as against 41,995 tons last year, and boxboard production increased from 34,845 tons a year ago to 42,352 tons this year.

Domestic consumption during the month was 80,225 tons as against 70,482 tons in May 1957. May exports were off and totalled 6,376 tons as against 6,968 tons a year ago.

Despite the sharp upturn in production and consumption in May, production figures for the year are still below those of 1957. Output during the first five months was 336,831 tons as against 361,819 tons a year ago. Domestic consumption was 308,604 tons this year as against 320,102 tons a year ago. Exports in the first five months dropped from 34,171 tons in 1957 to 25,376 tons this year.

Pulp exports in May totalled 188,962 tons, a ten per cent decline from the 209,713 tons shipped abroad in May 1957. Exports for the year to date were 824,931 tons, a fourteen per cent decline from the 956,849 tons exported in the first five months of 1957.

Reflecting their lower output of paper, pulp used by Canadian mills in May was 685,300 tons as compared with 717,869 tons in May a year ago. Domestic consumption in the first five months was 3,198,760 tons as compared with 3,440,890 tons a year ago.

Pulp production of the Canadian mills in May totalled 883,096 tons. In May 1957, the mills produced 917,983 tons. Output for the year to date was 4,068,637 tons as against 4,437,455 tons in 1957.

Gunter Bros. Instal Chipping Plant

Gunter Brothers Lumber Co. has installed at Wilton, Ark. equipment to convert waste slabs into wood chips, which will be sold to Crossett Industries for paper manufacture.

J. D. Zellerbach to Be Honored

James D. Zellerbach, United States Ambassador to Italy and board chairman of Crown Zellerbach Corp., will be the guest of honor at a dinner sponsored by the National Conference of Christians and Jews to be held Tuesday, November 11, at the Waldorf-Astoria.

The San Francisco industrialist will be honored for his years of leadership in the cause of building good will and understanding among Protestants, Catholics and Jews.

John H. Hinman, board chairman of the International Paper Co., is serving as chairman of the dinner committee.

J. D. Zellerbach

PAPER PEOPLE

T. M. Dunlap

New Superintendent at Longview Seattle

Longview Fibre Co. has promoted T. M. "Ted" Dunlap to superintendent of the firm's box container plant in Seattle, Wash.

Mr. Dunlap, who is a veteran of 23 years in the container manufacturing field, began his employment with the company in 1935 as a laborer in the box factory. He was transferred to the company's Los Angeles box plant as tour foreman. Six months after arriving at the Los Angeles plant he was advanced to general foreman, and two years later, in 1952, he became assistant superintendent. In 1955 he was promoted to plant superintendent. He returned to Longview in 1957 and became assistant to the manager of Longview's container plants.

Westvaco Promotes Four to Supervisory Positions

Gene W. Arthur, Robert D. Keller, Ryland L. Williams and Pat C. Woodson have been promoted to supervisory posts at the Covington, Va. mill of West Virginia Pulp & Paper Co. They will be in charge of shifts in the newly organized sheet finishing, cutter, and box shop departments.

Mr. Arthur joined Westvaco in mid-1947 and was promoted to shift foreman at the experimental pulp mill six months later. When the EPM suspended operations one year ago, he was transferred to the mill's technical group as a technician. Several months later he advanced to the product development department.

Mr. Keller was employed by the paper mill in the general yards department where he was loaned into various departments. After gaining experience in the mill's pulp control lab he was transferred to the experimental pulp mill as an operator in 1953. Three years later he became a research lab assistant and in 1957 he joined the product development department.

Mr. Williams was hired in 1948 as a control tester in the paper control lab. In 1953 he transferred to the construction department and later that year became an operator at the experimental pulp mill. In 1954 he joined the research lab as an assistant, the post he held until his new promotion.

Mr. Woodson started his career with Westvaco in 1947 in the general yards department and joined the experimental pulp mill staff in 1948 as an assistant shift foreman. He transferred to the technical service department as a technician when the EPM closed in 1957. Promotion to his new supervisory post, like the other three men, is effective immediately.

Malarkey Co. Names Roofing Officers

Herbert Malarkey Paper Co., Portland, Ore., has named Charles F. Humble product and sales manager of its new roofing products division and Ted M. Stiles sales representative for both wrapping paper and roofing products.

Mr. Humble was vice president and general manager of Western Insulated Products, St. Helens, until it became the Insulated Siding Department of Kaiser Gypsum in 1956. He then became supervisor of the department.

Mr. Stiles was sales representative with Blake, Moffitt and Towne for 32 years.

Pabco Appoints Roofing Manager

Pabco Division of Fibreboard Paper Products, Portland, Ore. has appointed J. C. Croudace as plant manager of the company's Portland roofing plant. He succeeds Walter Simon, promoted to the new position of purchasing agent, construction and equipment, at the firm's San Francisco headquarters.

WMU Receives "Slush-Maker"

Dr. R. A. Diehm of the School of Paper Technology at Western Michigan University, and Walter H. Daggett of Morden Machines Co., give the Morden laboratory "Slush-Maker" a final check before it goes into service at the university. This "Slush-Maker," a gift to the university from Morden, will be used for pulp evaluation work and testing programs requiring completely defibered materials on a rapid schedule. This unit is a scale replica of the commercial "Slush-Makers" which range in capacity from one or two tons per day on a batch basis, to 400 to 500 tons per day operating on a continuous basis.

Institute Awards Advanced Degrees

The Institute of Paper Chemistry awarded nine M.S. and eight Ph.D. degrees at the Lawrence College commencement this June.

Students earning the Master's degree were: Dwight B. Easty, Avon Lake, Ohio; Ronald B. Estridge, High Point, N. C.; Waner C. Holman, Cape Elizabeth, Maine; Robert C. Johnson, Cloquet, Minn.; Theodore D. McDonald Jr., Longview, Wash.; William R. Sherman, Malverne, N. Y.; Curt Thies, Grand Rapids, Mich.; William W. Wadsworth, Fairview Park, Ohio; Peter N. Yiannos, Alton, Ill.

Recipients of the Doctor of Philosophy degree who had been granted the Master of Science degree previously in their Institute studies were: Leo J. Bernardine, Lawrence, Mass.; Julian W. Daniel, Millen, Ga.; William D. Major, Bergenfield, N. J.; Don E. Marth, Oak Park, Ill.; Jarrell B. Mugg, Houston, Tex.; Joseph D. Parker, Norfolk, Va.; Roger A. Somser, Bloomer, Wis.; William H. Wiseman, Richmond Dale, Ohio.

The academic affiliation of the Institute of Paper Chemistry with Lawrence College provides for the awarding of degrees to Institute students by the college on the recommendation of the Institute.

Powell Promoted

Joseph P. Powell, who has been assistant pulp mill superintendent, at St. Regis' Deferiet, N. Y., mill, has been promoted to pulp mill superintendent.

Promotions at the Northwest Paper Co.

R. E. Noreus, formerly manager of the technical service department, The Northwest Paper Co. has been appointed assistant manager of manufacturing, and will be located at the general office. F. C. Schroeder, formerly chief chemist, succeeds Mr. Noreus as manager of technical service. T. W. Kamps, Jr., formerly chemical engineer in the pulp manufacturing department, replaces F. C. Schroeder as supervisor of technical service.

Howard DeGroot Made Acting Group Leader

Howard S. DeGroot, who has been assistant group leader for Oxford's coating, research department, has been made acting group leader. He joined the Oxford research department in 1954 as a senior chemist.

IP Promotions at Moss Point

International Paper has announced the following promotions at its plant at Moss Point, Miss.:

Olin G. Johnston, formerly construction superintendent, has been named assistant utilities, maintenance and engineering superintendent. Starting with IP in 1945, he was carpenter construction foreman when the company started construction of its Natchez rayon pulp mill in 1949. In 1951, he was moved to Moss Point as assistant construction superintendent in the building of Number Five paperboard machine. Upon completion of that project, in 1952, he went back to Georgetown as superintendent of construction and later to Natchez in the same capacity.

In 1955, when IP's first newsprint mill was slated for Mobile, he was selected as construction superintendent. In 1957 he was transferred to this mill to supervise the construction just completed.

Edward F. Goldmeyer, recently of International's Northern Division, was named assistant to mill management at Moss Point. His association with the paper industry began with Champion Paper and Fibre Co. in 1930, where he was engaged in paper coating and research. From 1950-51 he became associated with Oxford Paper Co., also in coating and research.

In 1951, he went with A. M. Collins Co. and became a member of IP's organization when the company acquired Collins in 1955. In 1956, he was sent to Glens Falls, N. Y., for coating and research for that Northern Division mill and remained until his appointment here.

James Alan Day has been named second assistant chief chemist. He started with the company as a laboratory technical trainee in 1955 at Moss Point. He was made project engineer in April 1957.

Longview Advances Two

Longview Fibre Co. has advanced Frank C. Strueby to acting electrical supervisor, and Wallace L. Boling to assistant electrical foreman at Longview, Wash.

Mr. Strueby joined the firm in 1941 as a journeyman electrician. He was advanced to shift maintenance foreman in 1952 and became assistant electrical foreman in 1954.

Mr. Boling joined the company in 1954 as a junior engineer. He became an assistant engineer in January 1956, and was advanced to engineer later that same year.

Bradford Retires After 61 Years

Frank H. Bradford, who has been a director of Oxford Paper Co. since 1934 and who has been associated with Oxford interests for 61 years, has retired. He was Oxford's longest service employee.

Promotions Announced by Oxford

Four promotions to newly created positions are announced by Oxford Paper Co.:

Robert C. Brown from group leader, coated papers, research department, to superintendent for the new North Star Coater, now being installed by Oxford.

Merton C. Austin from non-technical assistant, technical specialties research, to day foreman for the North Star Coater.

James D. Narr from day foreman, paper machines, to tour superintendent, nights.

Walter P. Yarnush from tour foreman paper machines to tour superintendent, nights.

Tashjian, Taggart Moved Up at W. Va.

Two promotions, announced at Mechanicville, N. Y. by West Virginia Pulp & Paper Co. will advance M. John Tashjian of Troy to the position of general foreman of the trimming and sheet finishing department, while his predecessor, C. David Taggart will become assistant superintendent of the finishing department at Westvaco's mill at Williamsburg, Pa.

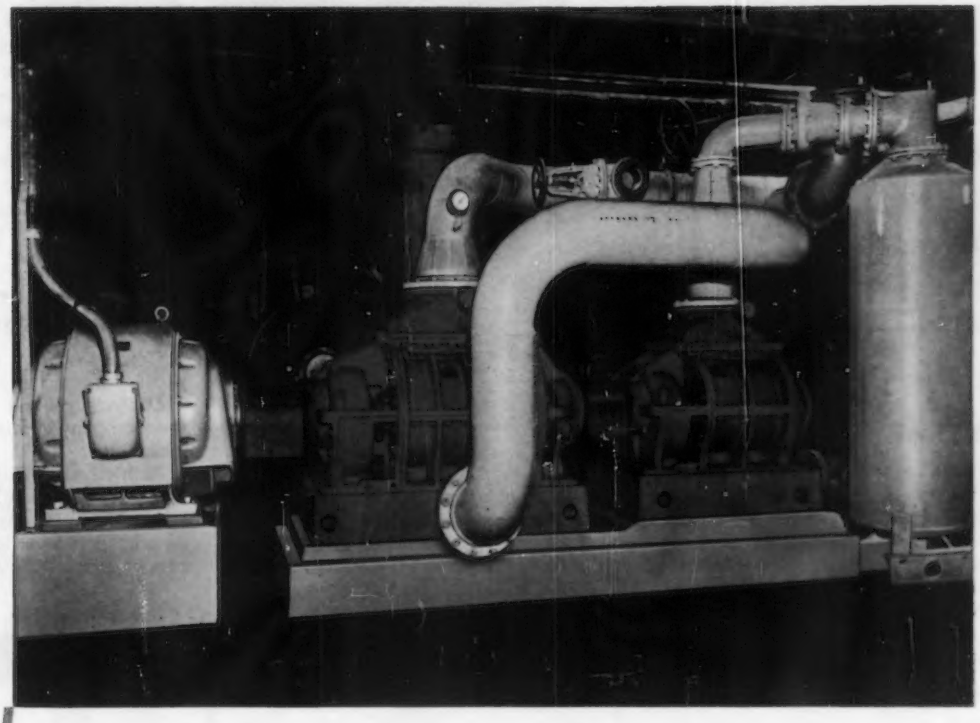
Severance Named Regional Administrator

Arthur T. Severance, head of the commercial analysis group of West Virginia Pulp & Paper Co.'s Merchant Paper Division at Mechanicville, N. Y., has been named regional administration manager of the company's Multiwall Bag Division.

He will be on the staff of Sheldon Y. Carnes, regional manager of the Multiwall Bag Division, with headquarters in New York City.

The paper company's Multiwall Bag Division operates plants at Mobile, New Orleans, St. Louis, Torrance, Calif., and Wellsburg, W. Va., serving markets from coast to coast.

FOR INTERNATIONAL PAPER COMPANY



Equipment purchased for this installation Two RCV-2 vacuum pumps—16x35 and 14x24 in compound arrangement, rated 7740 cfm at 22" Hg vacuum, operating at 900 RPM with 294 HP.

NEW R-C compound vacuum pump arrangement simplifies installation

With a new "straight-through" drive design for compound vacuum pump applications, Roots-Connersville has not only simplified piping arrangements but has also further reduced installation time and costs. This new development features a drive-through arrangement with the second stage pump driven directly from a shaft extension on the first stage pump. This permits the use of a standard single shaft extension motor drive. Other pump improvements provide for operation at higher speeds giving more CFM per dollar.

In addition to simplifying installation of the piping, this arrangement provides for easier servicing and maintenance of both pumps and motor. The first installation of this new arrangement was made at the Southern Kraft Division of International Paper Co. Subsequent installations have further substantiated its advantages.

Here is another reason why you can depend on Roots-Connersville vacuum pumps to deliver the finest overall performance and dependability at low cost . . . a reputation proved for generations in the country's leading paper mills.

For additional data, please refer to our section in Chemical Engineering Catalog or write for Bulletin VP-158

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A DIVISION OF DRESSER INDUSTRIES, INC.

758 River Avenue, Connersville, Indiana. In Canada—629 Adelaide St., W., Toronto, Ont.

NEWS OF CONVERTERS

Kimball's New Headquarters

A. Kimball Co. of New York, manufacturers of tickets, tags, labels, marking machine systems, and punch-tag marking machines used in integrated data processing, is now established in new quarters at Rewe St., Brooklyn 11, N. Y.

The modern 55,000 sq. ft. building will enable Kimball to consolidate their main offices and production facilities in one up-to-date building designed specifically for their use.

A subsidiary of the United Shoe Machinery Corp., Boston, Mass., A. Kimball Co. will maintain New York sales offices at 302 Fifth Ave., New York 1, N. Y., according to Leo J. Waters, president.

The Baggy Look in Sacks

The young lady sports a new sack dress of lightweight kraft paper for summer wear. She holds two birthday cards by Stanley Greeting Card Co. printed on paper bags. The dress was designed by Union Bag-Camp Corp. for fun. The company has no intention of manufacturing sack dresses but will stick to producing packaging for more substantial if less glamorous products.

Vernon Plant Installs Five-Color Litho Press

Expansion of diversified printing capacity at the Vernon Carton Plant of Fibreboard Paper Products Corp. is announced by the Southern Packaging Division.

Installation of a new five-color lithograph press with a capacity for printing 200,000,000 cartons annually, is currently in process at Vernon.

The press, when completed, will be capable of handling paperboard sheet sizes up to 52 by 76 inches. It will print five colors on carton stock consecutively from five complete printing units set in line from the feed end of the machine to the finished printed stock.

Griffin Retires from Dennison

H. P. Griffin, purchasing executive at Dennison Manufacturing Co., Boston, retired at the end of June. Griffin started his business career in 1915 as Dennison sales representative in West Virginia and Western Pennsylvania. War service as a commissioned officer in the Army called for time out in 1918 and part of 1919. In 1919 Mr. Griffin came back to Dennison as a sales representative in Central Massachusetts.

Menti Joins Latex Fiber

Ronald R. Menti has been appointed general manager, Latex Fiber Industries Inc., Beaver Falls, N. Y. He previously had been assistant general manager. Mr. Menti joined Latex Fiber Industries in October of 1956. Prior to that he was associated with United States Rubber Co. where he had held several positions, the most recent were eastern hemisphere operating manager, international division, and assistant to the executive vice president.

Container Corp. Appoints Sales Managers

Container Corp. of America has appointed Edwin H. Bixby and James F. McDowell general sales managers of the company's shipping container division.

Both men will report directly to Harry Miles, vice president of sales, and will assist him in the correlation of sales programs for all company territories east of the Rocky Mountains.

Peter L. Shanta

Named Technical Director by Taylor Fibre

Dr. Peter L. Shanta has been appointed technical director by Taylor Fibre Co., Norristown, Pa., manufacturers of laminated plastics and vulcanized fiber.

He will have charge of all research, product development and quality control activities of the company.

Dr. Shanta is succeeding Dr. C. N. Jacobs, vice president and director, who will retire at the end of this year.

Prior to joining Taylor Fibre Co., Dr. Shanta was research coordinator at the Carborundum Co., Niagara Falls, N. Y. Before that he had been a fellow in high polymers at the Case Institute of Technology, Cleveland, Ohio, and a junior fellow at the Mellon Institute, Pittsburgh, Pa. He received his Ph.D. from Case Institute of Technology in 1948.

Poultry Tags of MELOSTRENGTH® Paper...Pay off in steady sales for Dennison Manufacturing Co.

The processing and packaging of poultry involves immersion in water. Tags made of MELOSTRENGTH Paper* have proved profitable steady sellers for Dennison Manufacturing Co. because they remain exceptionally strong . . . with printing as legible as ever, even after prolonged exposure to dampness.

The MELOSTRENGTH Paper symbol is a strong selling point for Dennison's salesmen . . . and it can increase customer acceptance for you too, in any product . . . from tissues to tarpaulins . . . where *wet strength* is important.

Buyers know that this symbol *guarantees:*

Strength, Wet or Dry... stands up even when soaked
Non-linting... wipes clean without shedding
Resistance... to chemicals and acids generally
Lasting Strength... in hard use, or in long storage

Cyanamid supplies MELOSTRENGTH® Resin for the manufacture of MELOSTRENGTH Paper. The MELOSTRENGTH Symbol is nationally promoted, nationally known, and MELOSTRENGTH Paper is available in virtually every weight and grade from mills across the country. Specify MELOSTRENGTH Paper . . . and see the difference.

*Base paper supplied by Hollingsworth & Vose Company

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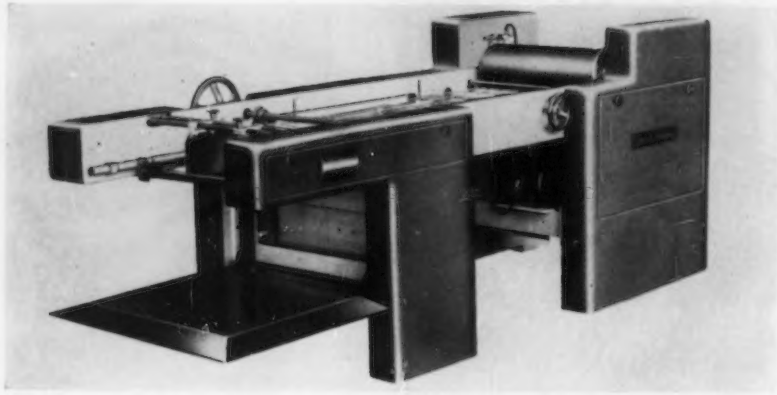
NEW EQUIPMENT

FOR CONVERTERS



Cutter for Registration Sheeting

Clark-Aiken Co., Lee, Mass., unveiled its new cutter for registration sheeting and general purpose finishing room use at the AMA Packaging Exposition held in New York recently.

The cutter, designated as Type "G", is available in widths up to 46 inches and reportedly features complete sheet control, extreme accuracy in sheeting and piling, high speed operation, good operating economy and a completely stream-lined appearance.

Components of the "G" cutter include heavy steel side frames, dynamically balanced high-speed knife cylinder, reciprocating jogger, back and side joggers, screw type elevating system, overhanging piler, air controlled pinch rolls, no back lash double differential, high speed tape system, overlapping delivery, shear type slitter and patented corrugated slice.

Photoelectric Laminator Guide

A photoelectric, edge guide unit made by Intercontinental Dynamics Corp., Englewood, N. J., is used to guide the several sheets before lamination in a heat-sealing machine. Called the Edgertron, the unit controls both transparent and opaque films and papers. Sensitivity of the photoelectric cells can be adjusted so that the unit will indicate the position of acetates and transparent plastic and foil sheets as well as opaque materials.

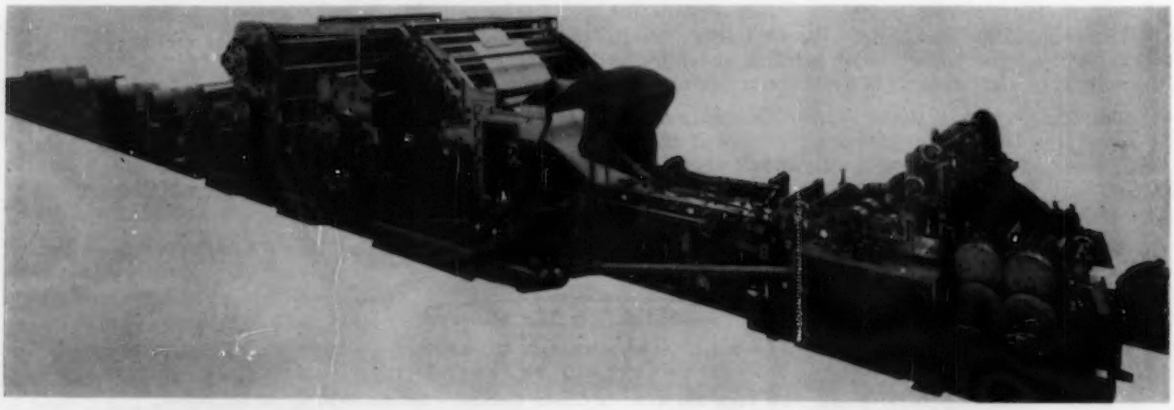
Misalignment of the moving paper or foil web is sensed by dual photoelectric cells mounted to indicate side to side displacement of the web. The moving web is fed through the sensing head. Light beams from the light source are directed from one side of the sensing head to the two photoelectric cells on the opposite side of the head. When the edge is in position, the inboard-cell light beam is broken, and the outboard-cell light beam shines on its cell. When either photoelectric cell receives a change impulse because of the change in position of the web, corrective action is instituted in the controller. The correction is then amplified and directed through an electric or hydraulic actuator and the correction is made to the web rollers or cylinders.

High Speed Tuber Soon to Produce Stepped-End Multi-Wall Bags

First of the newly developed stepped-end, multi-wall tubers designed and manufactured by the Potdevin Machine Co., 285 North St., Teterboro, N. J., will soon be in operation in the Owens-Illinois multi-wall bag plant, Valdosta, Ga.

This machine is called a "Perforaster Tuber," because each web is both perforated and cross-pasted simultaneously in individual stations within two stacks. It automatically produces from 150 to 300 tubes per minute, in variable sizes from 10 to 26 inches in width, to 20 to 54 inches in length. When properly equipped, the tuber will also make flush cut sewn valve tubes, open mouth tubes, and flat multi-wall tubes for conversion into pasted end sacks and stepped-end bags. Changeover time has been reduced to a minimum.

Requiring 10 by 90 feet of floor space, the machine is equipped to handle up to six paper rolls including one pre-printed roll which forms the outer layer of the multi-wall tube. Pre-printed paper can be converted on the stepped-end tuber, or a multi-color aniline press can be combined in tandem to print and convert in one operation.



Revolutionary new Hudson-Sharp continuous running band knife

PAPER ROLL and PACKAGE CUTTER

Delivers up to 150 Rolls or Packs per minute!

● CLEAN, STRAIGHT, SQUARE EDGES —

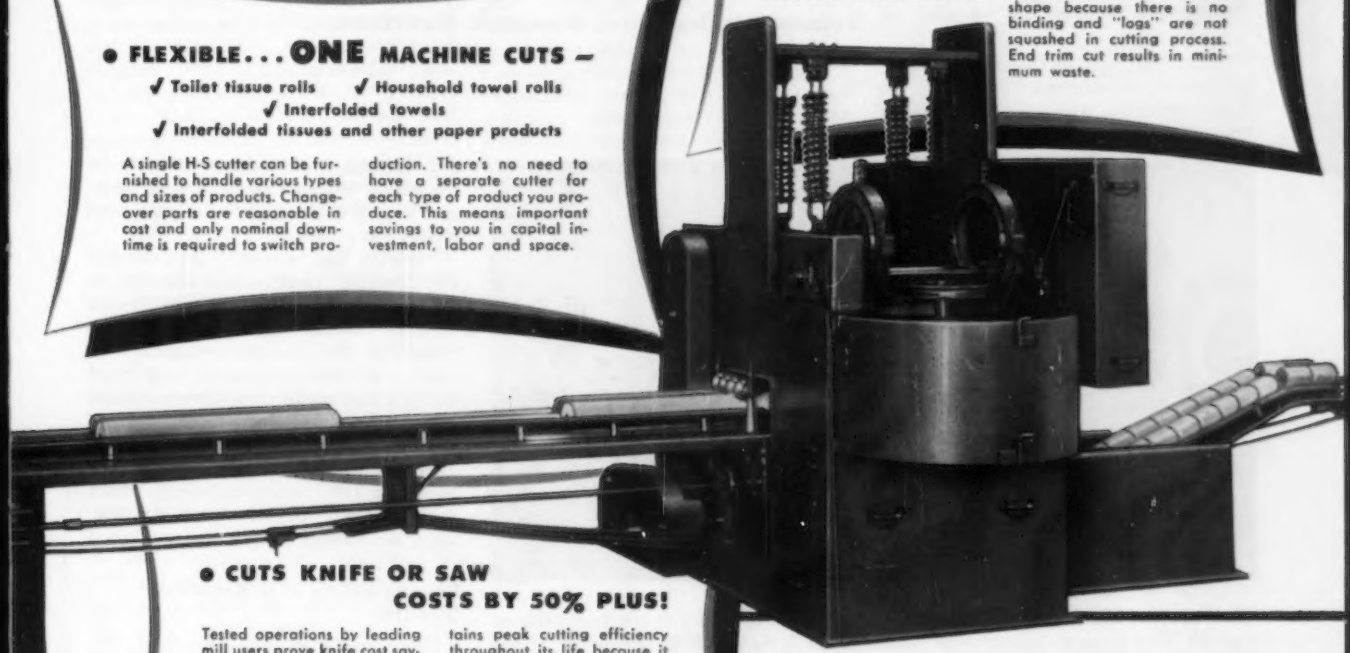
✓ Trims paper and core evenly — cleanly
✓ No crushing — no cuts on bias
✓ Minimum waste at end cut trim

High speed continuous running band knife cuts rolls or packs with clean, dust-free, non-ragged edges for complete production satisfaction. Packs retain round or square shape because there is no binding and "logs" are not squashed in cutting process. End trim cut results in minimum waste.

● FLEXIBLE... ONE MACHINE CUTS —

✓ Toilet tissue rolls ✓ Household towel rolls
✓ Interfolded towels
✓ Interfolded tissues and other paper products

A single H-S cutter can be furnished to handle various types and sizes of products. Changeover parts are reasonable in cost and only nominal downtime is required to switch production. There's no need to have a separate cutter for each type of product you produce. This means important savings to you in capital investment, labor and space.

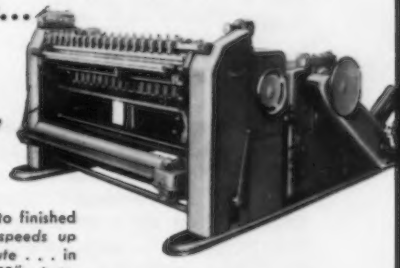


● CUTS KNIFE OR SAW COSTS BY 50% PLUS!

Tested operations by leading mill users prove knife cost savings of 50% and more! Exclusive H-S, *low cost* endless band knife 17' long x 3½" wide lasts considerably longer than conventional types. Knife maintains peak cutting efficiency throughout its life because it is continuously sharpened by automatic grinding wheels while running. *It need never be removed* until completely worn and ready for discard.

And—when used with Hudson Sharp's 60-B Automatic, Continuous Running Roll Winder...

you have the ideal high production team!



Reduce parent rolls to finished rolls at production speeds up to 1200 ft. per minute . . . in web widths up to 93". Automatic, progressive winding plus finished roll stripping and the most accurate sheet or measured roll count on market are just some of the standard features. Automatic core loading attachment available. Elimination of slitters for use with log cutter speeds output, reduces web breakage and minimizes down-time. Get complete facts, now!

It's only natural — that Hudson Sharp should produce the "Master" of all log cutters for stepping up roll and package production with amazing new speeds. For instance, it *delivers 80 to 150 rolls or packs per minute!* — dependent upon product length. Length cuts from 4" to 12" in ½" increments can be made from log girths of 4" to 5½". Two lanes of products are fed, cut and delivered simultaneously. The H-S cutter can be used independently or in-line with automatic roll winders. Heavy-duty, sturdy construction combines simplified rotary and eccentric motion to provide smooth, dependable, trouble-free operation. Write, wire or phone collect for complete details, today!

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GREEN BAY, WISCONSIN

Manufacturers of Flexographic, Rotogravure and Oil Ink Web Printing Presses • Automatic Roll Winders • Tissue, Napkin and Towel Folders • Waxers • Embossers • Laminators • Campbell Wrappers

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SUBSIDIARY OF FOOD MACHINERY AND CHEMICAL CORPORATION

Evaluation and Administration of a Research Dept.

Reporting a panel discussion by top level management representatives and research directors.

W. Gallay, research director of the E. B. Eddy Co. speaking at the panel discussion on "The Evaluation and Administration of a Research Department" at the dedication of John W. Bolton & Sons' Pulp & Paper Research Center. Also shown are: (l to r) Ward D. Harrison, president of TAPPI and vice president of Riegel Paper; A. E. H. Fair, president of Brown Co.; B. R. Cancell, executive vice president of St. Regis; and Dr. J. J. Thomas, associate research director of S. D. Warren.

At the recent dedication of the Pulp & Paper Research Center at John W. Bolton & Sons Inc., Lawrence, Mass., the theme of "Research" continued throughout the day's program.

A. E. H. Fair, president of the Brown Co., spoke on "The Purpose of a Research Department." Later, leading pulp and paper mill executives inspected the new Research Center and toured the Bolton-Emerson manufacturing facilities.

A panel discussion at the end of the afternoon rounded out the subject of "Research". "Evaluation and Administration of a Research Department" was the general topic. Panelists were Benton R. Cancell, executive vice president of St. Regis Paper Co.; Dr. Ward D. Harrison, president of TAPPI and vice president of Riegel Paper Corp.; Dr. Wilfred Gallay, research director of the E. B. Eddy Co.; and Dr. Joseph J. Thomas, associate research director of S. D. Warren Co. Mr. Fair served as moderator.

Organizing a Research Dept.

Dr. Thomas, speaking on "The Organization of a Research Department", said "It is necessary to set up a rather loose type of organization structure, but at the same time one out of which you can get organized results. The research director, incidentally, as head of the organization, is a vice president of our company. He reports directly to the board of directors so that we operate as an independent organization within the company."

"Within the research department," Dr. Thomas continued, "We try to maintain the family relationship—an informal relationship among the personnel in the laboratory—and try to cater to the individual idiosyncrasies of the men that are involved. We have also attempted to pass along to each of the individuals, through the organizational structure of directorship and section leadership, the same leadership which was originally passed down the line when we were a small company."

Responsibility of a Research Director

"Responsibilities of a Research Director" was Dr. Gallay's subject, and he began by speaking of the goals of research. "The goals, of course, are set by the other departments—by sales, manufacturing and engineering. There are quality matters for sales, new products, helping manufacturing out of trouble, giving them processes which create more uniform quality or make the process cheaper, and helping with specific engineering problems. The research director, therefore, is immediately taken out into other branches of the company."

How the research director can best fulfill his responsibilities and achieve these goals was outlined by Dr. Gallay in six points: "He must know his company's business policies and long-range objectives. He must know his own field and keep abreast of other fields. He must function as an important member of the company team and act as a leader in all technical phases of the company business; and essentially in addition to his own research, he must act as an internal consultant for the

company. He must provide enthusiastic, imaginative and creative leadership. Finally, he must be a good manager of his department—with the ability to select and train good men, to budget wisely, and to administer well."

What Management Expects

"What Management Expects of a Research Department" was the topic selected by Benton Cancell, and he defined management's obligations with the following questions: Has management adopted a well-conceived long-range research policy—established the proper perspective of fundamental and applied research — provided adequate research facilities and competent personnel—committed itself to a continuing program of research—provided periodic guidance and review—and is management prepared to protect the integrity of the research department in its relations with other departments?

"When these obligations have been met, then management can expect the following things from research," he said. "First, programs to keep the company abreast of scientific and technical developments outside the company which may affect the company's competitive position. Existing processes must be improved along with machinery with the goal toward lower production costs and greater flexibility, as well as improved quality of standard products. Another consideration is programs to conserve, add or substitute chemicals or other additives or raw materials with a goal toward lowering costs and improving quality of standard products. Lastly, programs must develop new products within the framework of the company's product pattern—and must confine development efforts to products for which definite markets exist."

Management Functions in Research

Dr. Ward Harrison concluded the addresses with "Management Functions in Directing a Research Department." "Management expects its research department to get or make profits by any one or a combination of several ways," he said. "The first are reduction of costs of manufacturing and reduction of the customer's cost. They go together. Then the next two: Increased utility of product and increased sales appeal. The last two: Produce new business and insure the future.

"Management must define its research objectives so clearly and concisely that everyone connected with this phase of its business knows what is expected of him. Not only that, but management must also make sure that the people in the research department accept these objectives as reasonable and fair. One way is to have the research people co-operate in outlining the objectives."

Questions and Answers

The following questions were among those put to the panel. The answers are, for the most part, abridged.

What is the opinion of the panel in regard to the selection and priorities of subjects for research?

B. R. Cancell—"I believe in a very small screening committee of sales, manufacturing and research executives doing the selection. Never should selection of projects be left to a research department alone. I also believe that if a project, even during its development, shows little prospects of success or of leading to a reasonable profit, it should be dropped."

W. D. Harrison—"I think that this latter part—when you're going to drop it—is one that is not a science. I think that very definitely it requires intuition. And the fellows doing the work often have a better 'feel' for this than, say, the president of the company."

J. J. Thomas—"Priority is definitely a committee job."

W. Gallay—"A research director should refuse to operate without a research committee. You've got to have a forum in the company to which you can report progress so that everybody will know what you're doing. On this point of knowing where to stop, I don't think a committee can do this any more than they can tell the research director what sort of an attack he should use on projects. They're not close enough to the subject nor do they have the knowledge to do that."

J. J. Thomas—"We have a screening committee composed of sales, research and manufacturing, but it acts in an advisory capacity rather than a dictatorial capacity. As far as dropping a project is concerned, we never drop any of them. But we do have a shelf and it is pretty full. We are ever hopeful—and it has occurred—that somebody will come along with a new technology or a new discovery in some field that will help take the project off the shelf."

What is your yardstick for the establishment of research department budgets?

W. D. Harrison—"I think that if you're spending 1 per cent of your gross sales on research, you're doing well. However, we do a lot of research in the mill that never gets charged to research. Further, I think we get a lot done for us by suppliers of chemicals and materials to the paper industry."

B. R. Cancell—"Our research director gets together with the general manager of each of our divisions and establishes for a year's period what they would like to carry out in the way of research programs. These programs are always subject to change by the review committee during the course of the year."

How much technical service should be done by the research department?

W. Gallay—"The time comes once in a while, sometimes frequently, when problems come up with which the sales department cannot deal, and those problems must be attacked by the research department. The danger lies, of course, in the growth of that kind of activity, at the expense of the regular activities of the research department. It is a subject that has to be scrutinized all the time."

J. J. Thomas—"I would say that part of it depends upon the status of the economic cycle. As we know, we are all right now rendering a lot of service. We will drop new product research in order to protect that which we have. We do in our own company try, however, to indoctrinate our sales division in the technical services. It is only the unusual thing that comes back to us. As far as the mill is concerned, we have a development department established within the mill to relieve research from spending so much time on mill problems."

Dr. Thomas's example showed the technical director reporting to the board of directors. Are there equally good or better organization plans?

W. D. Harrison—"The perfect organization, I believe, would have the research director reporting to the president or the chairman of the board of directors. He certainly should not report to sales. He shouldn't report to manufacturing either. If he reports to the manufacturing head, he is liable to be biased in that direction. Therefore, there is only one place left for him to report."

W. Gallay—"I agree very heartily with what Dr. Thomas showed in that the research director should be responsible directly to senior management or in some cases be an actual part of senior management. If there is a management committee of the company, the head of the research department should be on that committee."

B. C. Forest Products Described in Many Pictures and Few Words

In this pictorial presentation we provide a completely different approach to a new mill feature article

The new bleached kraft pulp mill of British Columbia Forest Products began operations early this spring at Crofton, B. C. During the past year we have presented four separate articles prepared by the mill staff describing the plant in detail. However because construction had not been completed it was not possible to obtain many pictures suitable for publication. We therefore now present these six pages of pictures so that our readers may get a good look at the mill, its layout and equipment.

This 500-ton mill obtains its wood as low grade logs from its own limits, market logs and chips received by truck and barge. The four-man woodroom is designed to produce 80 units of chips per hour. There are seven 6100 cu. ft. digesters and a blow tank which holds contents of three digesters. Knots are removed by Jonsson screens and brown stock is washed in three stages on three Impco washers. Pulp is then screened through three Cowan screens. Rejects are rescreened on another Cowan, whose rejects are refined in a Sprout Waldron refiner and recycled. Secondary accepts are passed through Bauer cleaners.

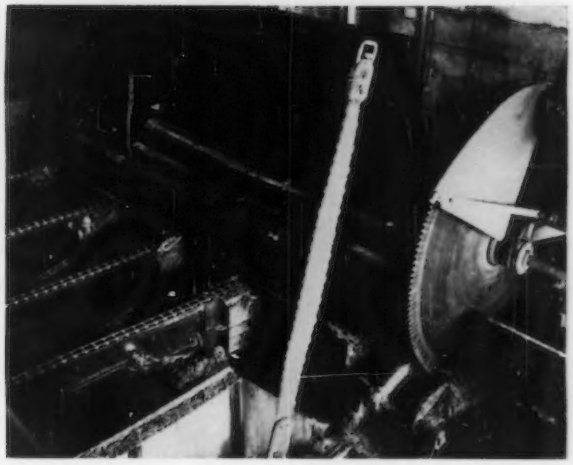
Bleaching is done in a six-stage Kamyr bleach plant as follows: chlorine, caustic, hypochlorite, chlorine dioxide, caustic, chlorine dioxide. Bleached stock is passed through Cowan screens and Bauer cleaners. The pulp is dried in the world's largest Minton dryer and cut and baled with Lambs-Gray Harbor equipment.

Black liquor is passed through two British Columbia Research Council design oxidation towers which greatly reduce atmospheric pollution. The Conkey sextuple effect evaporator is said to be one of the largest in the world. The C. E. recovery unit designed to handle 1,600,000 pounds of solids per 24 hours, is followed by a Koppers two-chamber three-cell precipitator. A Dorr causticizing system completes the chemical recovery equipment.

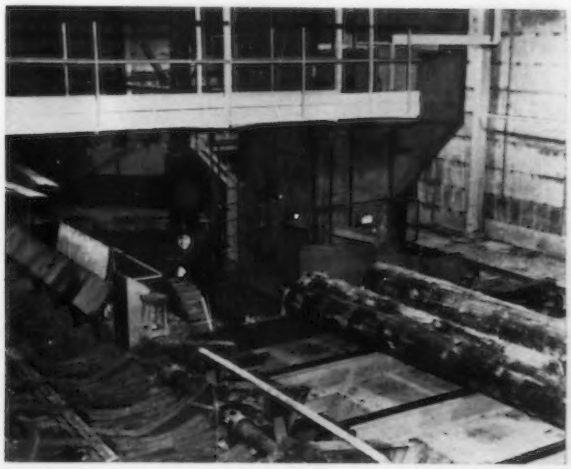
A Northwest Filter Co. designed filter plant with a capacity of 35 million gallons per day provides this immense quantity of high quality water required by a bleach pulp mill of this size.

For those who may wish to refer to our detailed descriptions of the plant, here are the dates of the issues in which they appeared: March 11, May 6, and July 1, all in 1957; and February 10 in 1958.

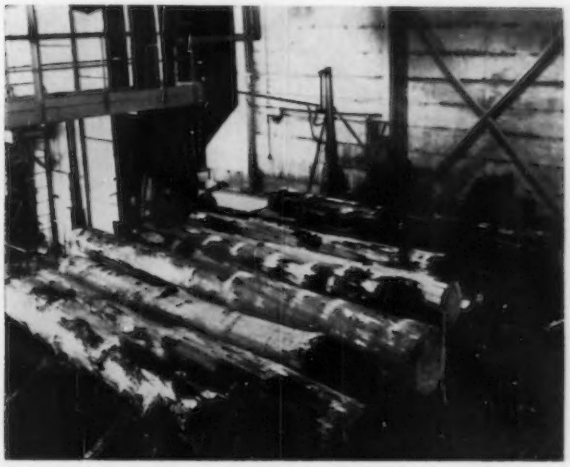
1 All steel log haul from pond into woodroom has two speed drive with 125 h.p. motor.



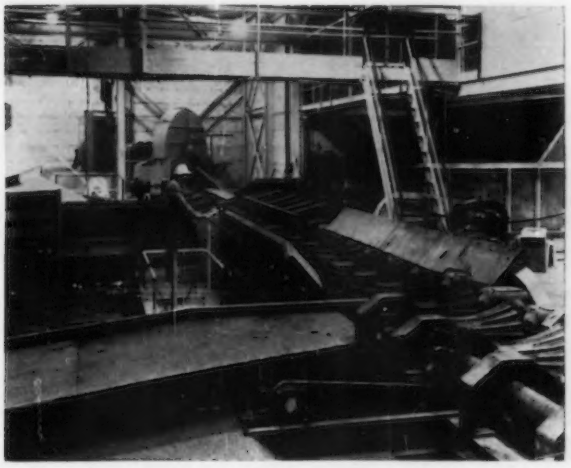
2 Logs are cut to 24 feet by chain saw (over 40 in. diameter) or swing cut-off saw (smaller diameter).



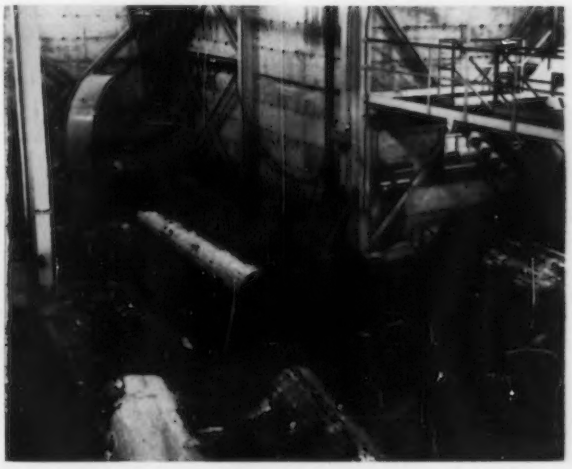
3 Logs (over 26 in. diameter) on storage deck waiting to be fed to splitter.



4 Feeding logs onto carriage of the Canadian Sumner splitter band saw rig.

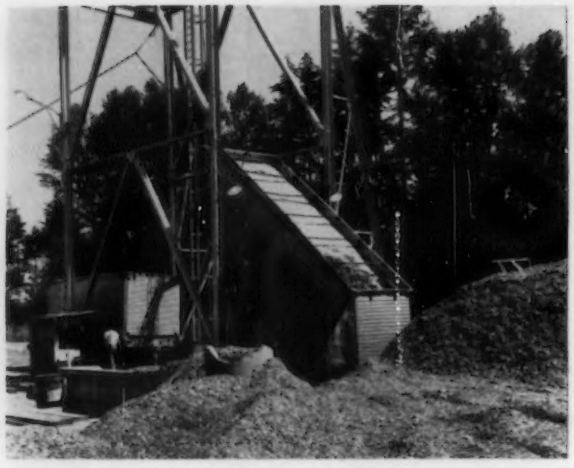


5 Woodroom utilizes Hansel horizontal feed chipper (rear) and Sumner Bellingham barker (far right).

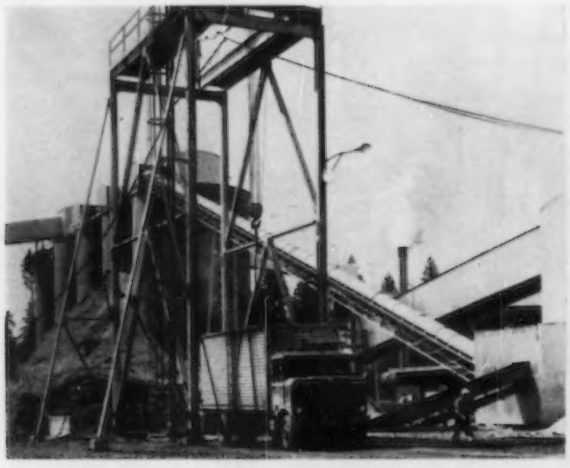


6 Hansel horizontal feed 8-knife 112-in. disk chipper receiving a 20-in. diameter log.

7 Colby Crane unloads chips from scow (right) into the storage pits at the left.



8 Crane lifts truck trailer to empty chips into pit feeding conveyor to silos.

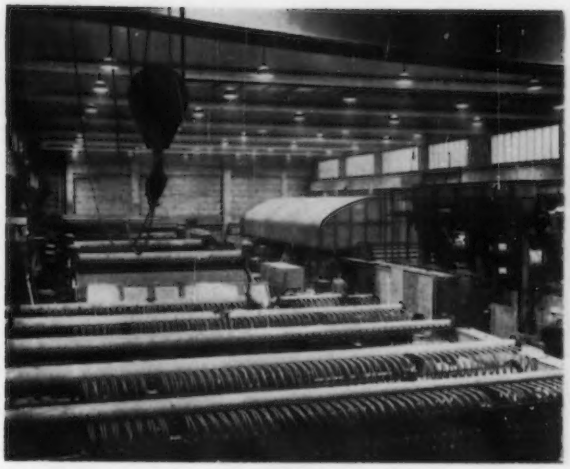


9 Chips are stored in the five chip silos (at rear) according to species.

10 Operating floor of the digesters. Note digester at right being charged with chips.

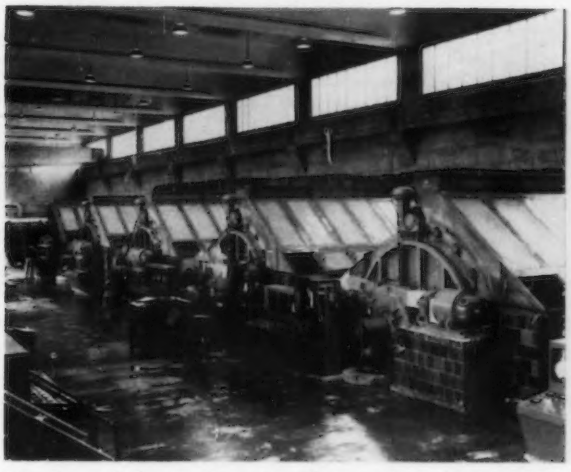
11 Instrumentation for the digesters, liquor measuring, etc., are located in adjoining closed room.

12 Unbleached screening operations are shown at the right. Brown stock washers at rear.



13 Brown stock washers (right rear), centrifugal screens (right) and Bauer cleaners in foreground.

14 All six bleaching towers are in the open with washers, etc. in adjoining building.

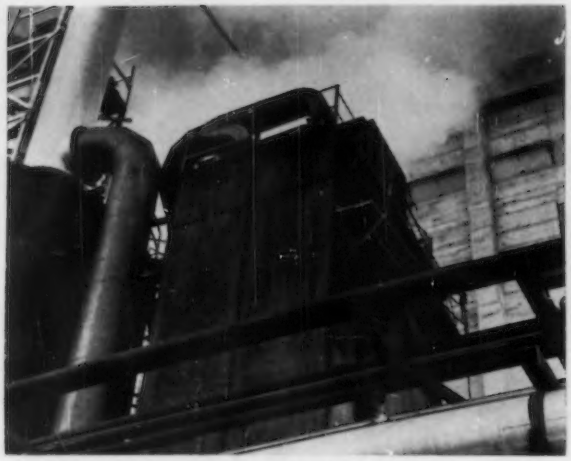


15 Five of the six Kamyr washers used in the bleaching operation.

16 Pump house on the Cowichan river feeds surge tower which supplies filter plant.

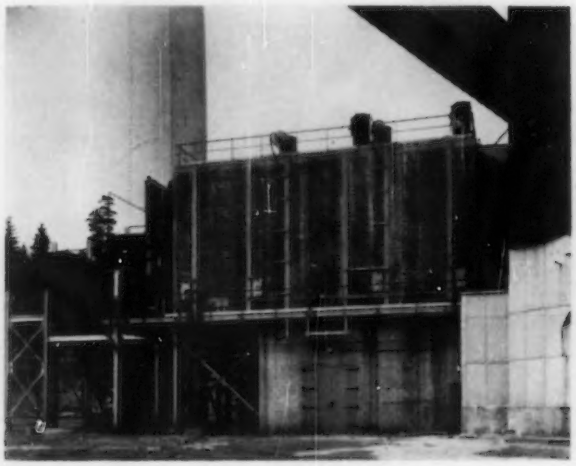
17 Northwest Filter Co. designed flocculation-sand filter plant. Filters at front, settling basins in rear.

18 Ultra-modern chemical laboratory utilizes all the latest equipment and techniques.

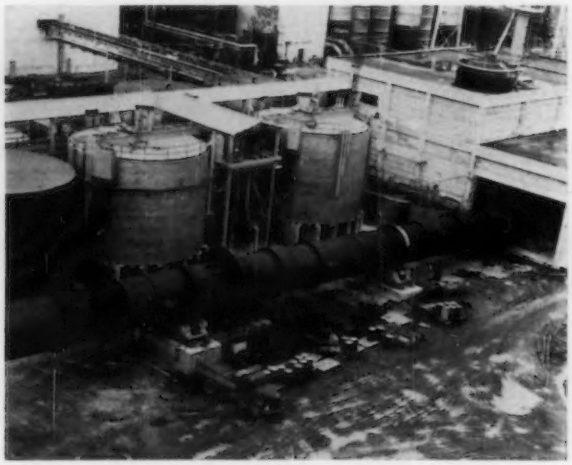


19 Oxidation towers through which black liquor passes before evaporation, reduce odors.

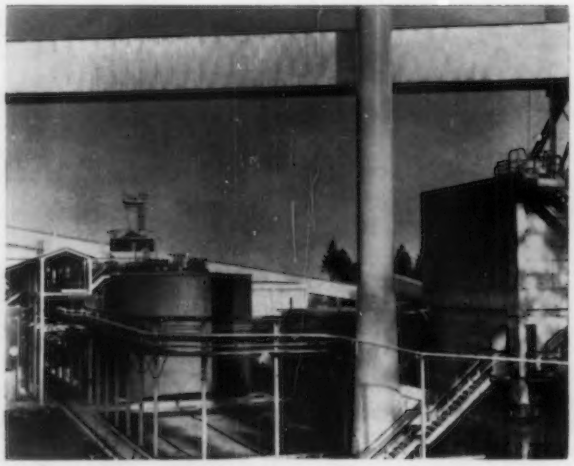
20 Recovery building contains evaporators, recovery furnace and hog fuel boiler.



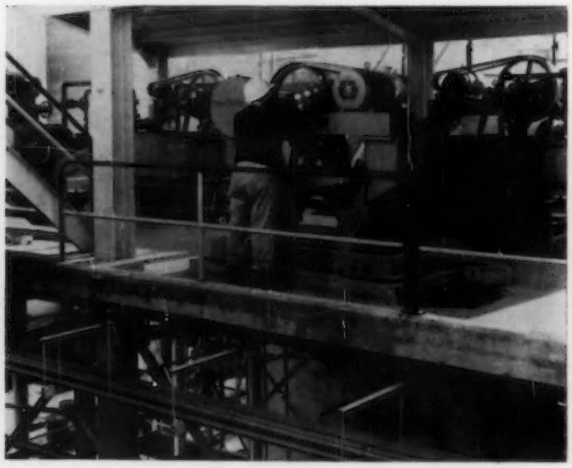
21 Koppers two-chamber three-cell electrostatic precipitator is of tile and concrete with steel bottom.



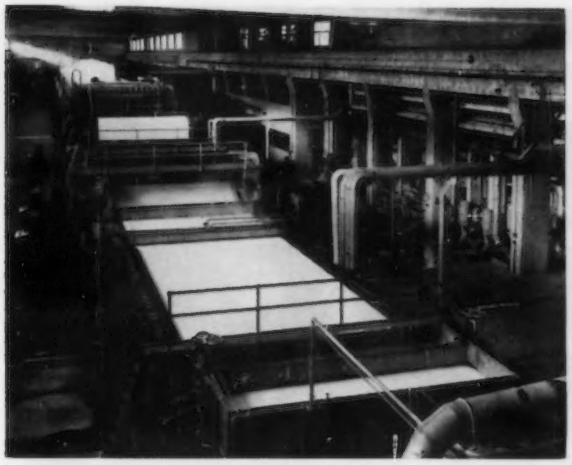
22 Lime kiln is 250 feet long and 10 feet in diameter. Behind it is the recausticizing system.



23 Dorr-Oliver causticizing area is in the open. Lime kiln stack intersects with hog fuel conveyor to boiler.

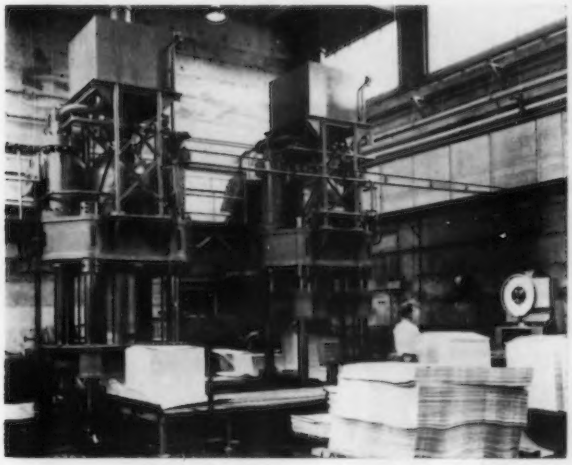


24 Operator making adjustment to causticizing equipment. Note open shed type roof over equipment.



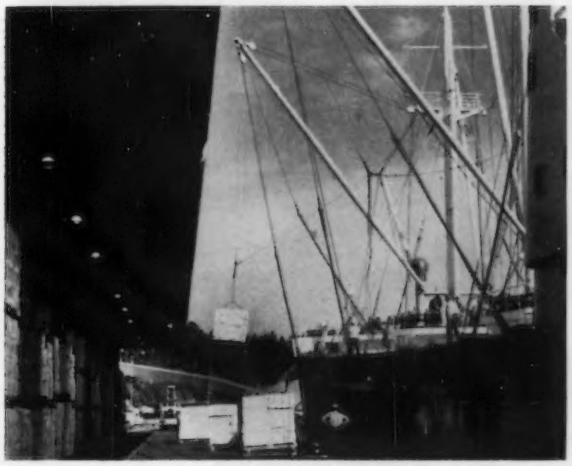
25 Fourdrinier end of pulp machine. At rear is the Minton dryer said to be world's largest.

26 Lambs-Gray Harbor cutter and layboy receives pulp from dryer and feeds sheets to baling operation.



27 Two Washington Iron Works 1000-ton baling presses where baling operation is completed.

28 Warehouse and railway loading dock. Warehouse has storage capacity for 8000 tons of pulp.



29 Loading pulp into an ocean going vessel. Pulp is delivered to dock by fork trucks.

30 Railway cars shipped to the mainland on a "car barge." Note freighter at right.

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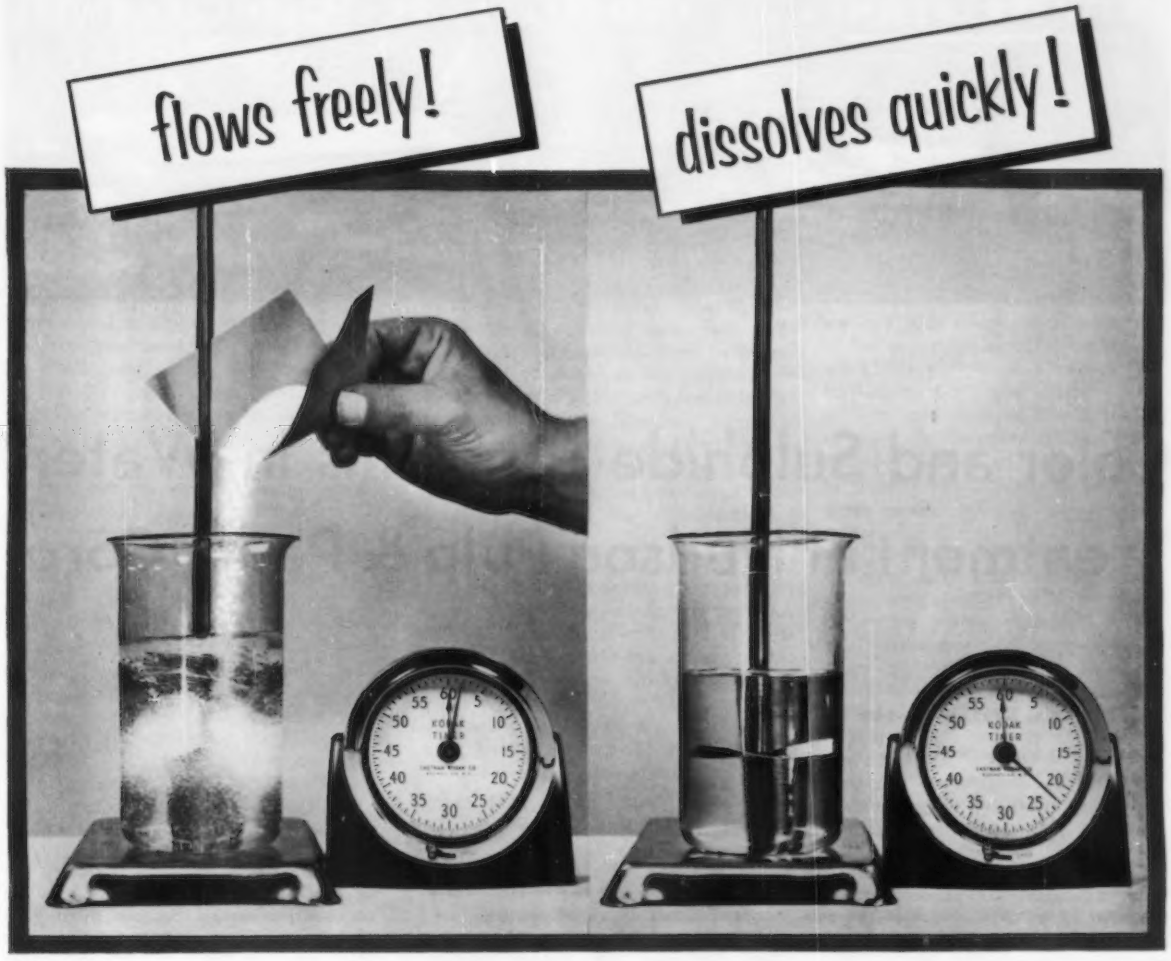

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Color and Sulphide Problems in Water Treatment at Hudson Pulp & Paper Corp.

J. S. McInnis, R. H. Mills and T. T. Collins Jr.

Hudson Pulp and Paper Co.
Palatka, Fla.

Consideration of the problems of water treatment at Palatka should be preceded by an explanation of the evolution of the system as the mill requirements have changed.

The possible sources of water available to the various sites were considered. Because of the hardness of the underground water at the chosen mill site and, chiefly, the possibility of salt water encroachment into wells, it was decided to use the soft, highly colored water of negligible turbidity from Etonia Creek which is typical of water draining from swampy areas. A pumping station was erected on the creek approximately 2½ miles away with a pipeline to a clear well at the mill. This water was used for process without treatment, other than a token chlorination, from start-up of the mill late in 1948 until April, 1951 when the first water plant began operation. Second quality water to the turbine and evaporator condensers and for wash-up was supplied to the mill from Rice Creek at the mill site. This water is contaminated with mill sewage.

The first water plant (Number 1) was designed for approximately 10 m.g.d. capacity and consists of two separate basins in parallel. Each basin is approximately 185 feet long by 55 feet wide with a depth of 16 feet. The inlet end of the basin is equipped with three rows of Dorr flocculators and the outlet water is removed by a network of collector flumes at the far end. Sludge removal is accomplished by alternately shutting down basins at intervals of several weeks while by-passing part of the water and washing the basins with hoses. This unit was designed to use alum, soda ash, chlorine and silica activated with chlorine by one of the early procedures. After some time it was found advantageous to replace the soda ash with sodium aluminate and to use clay as the floc weighting agent due to failure of the silica activation system. Caustic soda was also used for post-clarification adjustment of pH. As there were no filters following this unit, there was a considerable carryover of alumina floc, particularly during periods of high color in the water or when the settling basins became filled with sludge. This carryover, to say the least, was not conducive to good boiler water conditions since all treatment was internal. This unit was operated until August of 1955 when it was shut down as an economy measure. There is no technical or operating evidence to prove that removal of this organic color as high as 500 p.p.m. is necessary for the manufacture of unbleached kraft pulp and paper. This unit is not used at the present time except as a settling basin. However, it may be reactivated if additional water is needed for the manufacture of bleached paper in the future.

New Water Plant

In planning the bleached pulp and tissue mill which was to go into operation in 1956 at Palatka, consideration was given to obtaining a finished water of low color from Etonia Creek. The chemical treatment was designed on the basis of prior experience with the Number 1 water plant which was operating at the time.

Based on a paper presented at the March 14, 1958 meeting of the Southeastern Section of TAPPI in Charleston, S. C.

The new water plant (designated Number 2) consists of three 80 foot diameter by 19 foot deep Graver Water Conditioning Co. Reactivators using the recirculated sludge principle. Chemicals are fed to a central flash mix chamber inlet with approximately one minute detention time. The units are equipped with variable speed recirculator drives and automatic desludging devices. The back flush feature is not necessary for this installation. Water from the flash mixer, containing the coagulants with pin-point floc formed, enters each unit at a point in the lower draft tube below the recirculator impeller where it is mixed with previously formed floc. The impeller moves the mixture upward into the upper draft tube and it flows over the top of the draft tube inside the surrounding inverted cone called the floc accretion zone. The water then flows downward in the cone and drops its sludge at low velocity in the sedimentation area in the bottom of the tank. The clarified water flows upward to radial collecting launders.

Clarified and settled water from the units is carried in flumes to eight 16 by 30 feet Graver gravity filters of the rapid sand type. The units have Wheeler filter bottoms and are topped with 30 inches of 0.4 mm. "effective size" sand with various graded gravels underneath. The water is chlorinated after clarification but ahead of the filters to reduce slime, algae, and weed growth in the filters. They are rated at 3.1 g.p.m./sq. ft. of filter area.

Filtered water is treated for post pH adjustment and stored in a clear well underneath the filters. The plant is operated by one man and adjustment of water flow and chemical feed are all manual.

Summary

Practical aspects involved in the removal of color and sulphide from water for use in the manufacture of bleached pulp and in drinking water systems are described.

Developments of the water treating facilities and procedures at the Hudson Pulp and Paper Corp. plant at Palatka, Fla., are discussed. The original supply was based upon a soft, highly colored (at times, 500+ p.pm. color) creek water which was later supplemented by artesian wells drilled along the creek. Although the untreated, colored water was suitable for unbleached kraft pulp and paper production, the requirement for water of sufficiently low color for high brightness bleached pulp and tissue products necessitated the installation of a 15 million gallons per day coagulation-clarification-filtration plant of the sludge-blanket type.

Treatment of a supply of well water used for drinking and sanitary purposes involved sulphide removal. Although the effectiveness of aeration followed by the action of the sulphur bacteria (Beggiatoa) was recognized as a practical means for removing sulphide and lowering the chlorine demand of the water, a chlorination procedure was finally adopted.

Methods for the removal of organic color in water are discussed. These consist of coagulation, destruction by chlorination and other oxidizing agents, decoloration by absorption on charcoal and other surface active materials, filtration, and electrolysis. The most practical of these procedures is coagulation of the negatively charged color bodies with sufficient alum at optimum pH using clay as a weighting agent and a proper coagulant aid.

Recent years have seen the development of several excellent coagulant aids which help materially in the reduction of color by broadening the pH range at which floc formation occurs and improving the settling and filtering characteristic of the color flocs formed. The effectiveness of some of these materials (activated silica, Separan, etc.) has been shown by the data in this paper.

A literature review on the subjects of color and sulphide removal in water treatment shows some of the important points observed in this study have been recognized previously by other workers in these fields. Many highly colored surface waters are the soft, low turbidity drainage from swampy areas where the water has been in contact with decaying vegetation. The problem of sulphide is associated with well water in most cases.

Etonia Creek Inadequate

To supply raw water to the new plant, the Etonia Creek pumping station was enlarged and a larger parallel pipeline to help serve both water plants was installed. In order to maintain a constant level for the pumps, a steel sheet piling and Coquina rock dam was built across Etonia Creek. When this was finished, it was determined that the low average rainfall in 1954 and Spring of 1955 had resulted in a deficiency of flow in Etonia Creek during part of the year. At the time of completion of the dam the mill was using the full 10 m.g.d. of water produced by Etonia

J. S. McInnis
Assistant Technical Director

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Plant Engineer

T. T. Collins Jr.
Technical Director

Creek which indicated the necessity for assuring an additional supply of about 16 m.g.d.

New Sources of Supply

Several schemes, such as installing canals to reservoir lakes and using other sources of surface water were considered. However, the necessity for a ground water survey was obvious and carried out immediately.

After drilling some test wells and studies by consulting geologists, the possibility of developing a ground water supply of flowing wells from the Ocala formation appeared reasonable. Unfortunately, residual connate waters along the course of the St. Johns River were considered as having a potential adverse effect of increasing hardness and chlorides in wells drilled near to the mill so that the proposed well field was located approximately 4 to 6 miles upstream of the mill on Etonia Creek and one of its tributaries, Simms Creek. A supply in the dry season of approximately 16 m.g.d. of well water to augment the flow of creek water has been established by drilling 12 inch and 20 inch diameter wells. The depth of these wells runs from 600 to 1200 feet and for the most part hit the Ocala strata at about 200 feet depth. These wells are allowed to flow into the creeks even in the rainy season so that the alkalinity of the creek water is increased and the color lowered at times other than periods of heavy run off. This, of course, has helped alleviate the difficulty of mill water treatment which is strictly one of color removal. It is of interest to consider the analysis of the various water supplies available as shown by Table I.

Operation of New Plant

When the new water plant was placed in operation in the summer of 1956, the treatment consisted of alum, sodium aluminate (in periods of high color) McNamee Clay Number 3, and caustic soda for post filtration pH adjustment. Chlorination at the flash mixer was possible but because of the high chlorine demand of the colored water the early practice for economy was to chlorinate only the filtered water entering the clear well. However, it soon became necessary to chlorinate ahead of the filters after clarification and settling to reduce growth of algae on the flumes. At no time prior to chlorination was algae found below the layer on top of the sand. This was of course due to absence of light.

Danger of Floc Carryover

The first half year of operation presented no great problems as the water plant ran at reduced capacity awaiting start-up of the tissue machine. With the demand for the full designed throughput of 15 m.g.d. (at times 10 per cent over this capacity) of raw water, however, the potential danger of floc carryover, particularly in periods of highly colored water, became apparent. The carryover would be very disconcerting, to say the least, because of the necessity for supplying water of minimum color to a pulp bleaching plant running market pulp of 86+ G.E. final brightness from the pulp dryer. Actually, a heavy carry-over of floc from even one of the three units would upset the whole system because we could not take a clarifier off the line to settle without causing a shortage of water and the excess floc on the filters would necessitate such frequent backwashing that this requirement for water could not be met along with the mill demand.

Additional Chemical Treatment

When it became apparent that some additional chemical treatment would be necessary to eliminate the possibility of carry-over, a temporary installation was made for activating sodium silicate with ammonium sulphate. Tests showed that approximately three p.p.m. of activated silica was an optimum dosage and gave the maximum benefit when added to the sludge flowing through the lower draft tube of the recirculator. The use of this material was of great benefit as it gave a much wider margin of safety in operation of the water plant, although it did not completely stop the danger of occasional bed upsets. Unfortunately our equipment did not have the capacity to allow us to explore the effectiveness of higher activated silica dosages for plant operation. However, jar tests did not indicate increased effectiveness from higher silica dosages.

Our studies indicated that not only is the clay needed as a weighting agent for the floc under our conditions but a coagulant aid is also a necessity for highly colored water at full plant capacity.

Further studies were made in conjunction with Graver engineers which indicated the necessity for very careful and proper control of chemical feeding and blowoff. Careful pH control was also necessary in the flocculation for color removal. For water of color 300-500 p.p.m., the optimum pH zone of coagulation was found to be 4.8-5.2 resulting in good formation of floc, and more important, maximum adsorption of the color bodies on the floc. For economic reasons hydrated lime was substituted for caustic for coagulation and post filtration pH adjustment and found to be equivalent, if not superior, to the caustic previously used. It is believed the divalent calcium ion is more effective than the monovalent sodium ion in helping to neutralize the negative charge on the color colloid. In addition, the sodium aluminate was replaced by additional alum with accurate adjustment of coagulation pH with lime. This is less expensive than using aluminate and ease of feeding lime and alum allows more careful control of coagulatory conditions. It is also believed, although there is no quantitative proof, that the aluminum ion and alumina floc formed with alum are more reactive at optimum pH with color bodies than the particular form of aluminate used which contains considerable insoluble material.

Separan Most Effective

In the search for more effective coagulant aids, Separan 2610 (a nonionic product of Dow Chemical Co.) was investigated. Jar tests indicated such remarkable possibilities that full scale trials were made using 1 p.p.m. of Separan. The results were spectacular. The floc beds consolidated in the bottom of the clarifiers and the possibility of carry-over was considerably reduced. The latter coupled with the tougher floc on the filters, resulted in a lower finished water color than was

TABLE I—ANALYSES OF RAW WATER SUPPLIES

	Original Etonia Creek Water	#2 Well Sample	Mixed Water Well-Creek	Mill Yard Well
Color (p.p.m.-Plat. Units)	100-700	0	40-500	0
Total Hardness (p.p.m. $CaCO_3$)	15-38	116	15-92	176
Turbidity (p.p.m. SiO_2)	0-5	0	—	0
Total Alkalinity (p.p.m. $CaCO_3$)	5-25	108	5-88	136
pH	5.0-6.5	7.5	5.6-7.3	7.5
Silica (p.p.m. SiO_2)	4-12	11	5-8	14
Chlorides (p.p.m. Cl)	7-35	8	—	66
Total Solids (p.p.m.)	56-106	120	—	—
Hydrogen Sulphide (p.p.m. S)	0	2	—	4
Chlorine Demand (p.p.m. Cl)	35 at 500 color	—	—	15
	15 at 250-color	—	—	—
Iron (p.p.m. Fe)	0.15	0.1	—	—

TABLE II—CONDITIONS AND RESULTS OF OPTIMUM PLANT OPERATION

Raw Water			Chemicals for Coagulation							Finished Water At pH 6.5-7.0	
Color Range (p.p.m.)	Total Hardness (p.p.m.-$CaCO_3$)	M.O. Alk. (p.p.m.-$CaCO_3$)	ALUM (g.p.g.)	LIME	CLAY (g.p.g.)	ACTIVATED SILICA (p.p.m.)	SEPARAN (p.p.m.)	Optimum Coagulation pH Range	Filtered Water Color (p.p.m.)	Color (p.p.m.)	Hardness (p.p.m.-$CaCO_3$)
50-150	91-45	88-41	3-4	None	1	None	None	6.8-5.7	<5	5	110-60
150-250	45-34	43-21	4-5	As needed for pH 5.1-4.8	1	3	—	5.7-5.2	5	5-10	100-70
					1	—	.25	5.7-5.2	5	5-10	100-70
300-500	53-13	42-5	5-7	As needed for pH 5.1-4.8	1	3	—	5.1-4.8	10-20	10-30	96-42
					1	—	.25	5.1-4.8	5-15	10-25	96-42

previously obtained. However, the toughness of the floc necessitated a more frequent back-washing of the filters but the water consumption for each operation was reduced so that the net water used for back-washing remained about the same. The next step was to determine a more economical dosage of Separan and our plant trials showed 0.25 p.p.m. to be approximately equal cost-wise to 3 p.p.m. of activated silica and to give superior clarification with somewhat lower color. The advantages of mixing only a few pounds of Separan per day as compared to using our make-shift silica activating set-up were apparent.

When Separan has been used steadily in periods of high water color, there have been no cases of floc bed upsets even when the plant has been treating at the rate of 16.5 m.g.d. of raw water for several hours. In the periods when no coagulant aid is used and a floc bed has started to rise and with possible carry-over, a few pounds of Separan fed at the proper rate into that particular unit results in a dramatic drop of the floc bed (within 4-6 hours) to the normal level. This effectiveness of Separan and its availability on short notice has enabled the plant to be operated safely without coagulant aid much of the time when the operator would have difficulty in predicting whether or not the aid was needed.

The continuous feeding of Separan or other coagulant aids has been found generally unnecessary at raw water colors of 200 p.p.m. or less, and with the exception of short periods of high color are not fed at all during the months of low rainfall. The water generally requires coagulant aid steadily from June to October.

It should be pointed out that activated silica has been approved by the U.S. Public Health Service for use in potable water supplies but Separan and a number of other organic polymers, with the exception of CMC (carboxy methyl cellulose), have not yet been released.

Optimum Operation

Table II summarizes generally the results for optimum plant operation for the extreme ranges of raw water conditions. Improper blowdown and/or failure of proper chemical feed and coagulation pH control result in finished water colors higher than these under the difficut operating conditions imposed by the extremely high colored raw water. During much of the period June through October, the color runs 300 p.p.m. or above whereas during the rest of the year it reaches this value for only short periods of time after excessive rains and for the most is below 100.

Other Chemicals Investigated

The chemicals used presently are by no means all that were investigated but they are the most satisfactory, operations-wise, that could be developed at a reasonable economic level. With reference to coagulants, a slight improvement in color removal can be achieved by higher alum and lime dosages for coagulation. Sodium aluminate has not shown advantages to justify its use. Ferric sulphate and chloride in jar tests were found to have a very low and narrow zone of pH for flocculation on this water and were not as effective as alum for color removal. In addition, the consideration of iron coagulants was eliminated due to the possibility of contaminating bleached pulp.

Clays from various sources and of different types have been investigated as a weighting agent for the flocs. None of those used in jar tests have shown advantages over a kaolin, McNamee Number 3 clay, which fortunately is also the lowest priced clay available.

For adjustment of the pH at optimum value for coagulation, lime has proved to be less expensive than aluminate or caustic and may have other advantages in helping to reduce water line corrosion when "threshold" treatment with glassy phosphates is used.

Coagulant aids have proved to be very necessary for successful operation of the plant at maximum flow rates on highly colored water. Separan 2610 has proved to be the most effective material tested so far but activated silica is also a very worthwhile material as demonstrated by extended plant runs. CMC and a number of other organic flocculant aids show considerable promise in jar tests and will be evaluated on a plant scale. Other materials that have shown less promise are a certain polyelectrolyte, a proprietary mixture of sodium aluminate and starch, guar gum, glue, and causticized starch. It is safe to say that future interest will be focused on the application of organic polymer flocculating agents for use in difficult water clarification problems.

Decolorizing agents; such as activated carbon, have not been shown to be practical, effective, or economical when used in conjunction with treatment of the water under consideration. Some thought has been given to the possibility of using ion-exchange resins for color removal but no experiments have been performed along these lines at Palatka.

The bleaching agents, chlorine and chlorine dioxide, have been investigated for their effect in color reduction. No appreciable technical benefits have been found in chlorinating or by addition of chlorine dioxide along with coagulation. In this instance the color held by the floc is merely bleached and the filtered water color is not reduced below that resulting when no chlorine is used. Water samples coagulated, settled and heavily chlorinated are not improved in color when the pH is restored to neutral. Pre-bleaching ahead of coagulation also is no more successful.

Corrosion and Slime

Since the finished water at Palatka in the pH range around 7.0 is not a scale-forming water as defined by the Langelier index, it has been found necessary to reduce corrosion of water lines and the resultant "red water" by the "threshold treatment" with 2-3 p.p.m.

(Continued on page 38)

TOM BIGBEE SAYS:

There's a new pulp mill

a-building at NAHEOLA!

"And if this new Marathon pulp mill at Naheola (pronounced Nay-hee-ola), Alabama, isn't the finest ever built, my name's not Tom Bigbee!

"Just about a year ago Marathon, the pulp and paper people from Wisconsin, moved in with about 1500 construction workers, and what they carved out of this Alabama wilderness sure makes my efforts with this double-edged axe seem puny by comparison.

"They've almost completed the mill (they call it Marathon Southern) and this is supported by an abundant supply of fine Alabama timber. This timber sure produces a fine quality sulphate pulp and they'll be making over 100,000 tons of bleached sulphate pulp every year.

"The mill location is perfect—right in the heart of the richest woodland in the South. Rail, river and highway transportation is right at hand—for dependable delivery anywhere, fast!

"I understand Marathon Southern will be the newest, best-equipped mill in the industry. It will round out Marathon's service and supply program for real high quality pulp—Naheola pulp from our southern timber and Marathon Canadian pulp from their northern mills—to serve the future needs of the industry"

MARATHON SOUTHERN CORPORATION

NAHEOLA, ALABAMA

An operating unit of:

MARATHON

A Division of American Can Company

MENASHA, WISCONSIN

(Continued from page 35)

of glassy phosphates. In general beneficial results appear to be obtained as shown by test spools in the water lines. Vacuum deaeration of the entire water supply for the plant would not be practical or economical.

It is of interest to note that use of surface water poses certain problems with regards to molds and fungi and their spores that are resistant to chlorination. The presence of color may lower the effectiveness of chlorine. This subject is outside the scope of this paper.

No Boiler Water Problem

With regards to the effect of color in boiler water, no deleterious effects have been observed in boilers operating at approximately 425 p.s.i.g. over almost ten years. A number of other complicating factors, such as complete internal boiler water treatment until recently have obscured any effect of color alone. Since purchased organic material is normally added to the boiler, it is reasonable to assume that the organic water color may also serve for the same purpose of sludge conditioning. In a year and a half of operation there has been no evidence that residual color in treated water has effected the capacity of styrene resins used in a cold sodium zeolite softener. It appears possible to use untreated raw water in the softeners if desired. However it should be pointed out that color bodies have an adverse effect on demineralization ion-exchange resins and for that reason this system of boiler water treatment would not be considered as practical for the Palatka mill.

From this information it can be seen that the problems of color removal in water treatment are somewhat complicated.

Problem of Sulphide At Palatka Mill

The sulphide in the water from the wells flowing into Etonia Creek is oxidized by the Beggiatoa bacteria growth in the immediate area of creek bed. Therefore no problems have resulted from sulphide in our plant supply water system.

In the case of drinking water and sanitary water supplied to the mill from wells in the yard, it has been a different story. Originally water from the wells flowed or was pumped into the top of an aeration tower (with or without forced draft) which drained into a small sump. Although this tower was greatly overloaded and the sump too undersized to allow the Beggiatoa to remove all of the sulphide, this treatment at high flow lowered the chlorine demand of water from 28 to 10 p.p.m. This water, while safe for human consumption, was very unappetizing due to residual sulphide and a considerable debris of sulphur bacteria filaments which necessitated frequent cleaning of air conditioners and drinking fountains.

Chlorination Successful

First consideration was given to installation of a larger aeration tower and a sump giving a minimum of four hours retention time at a maximum water rate which is in line with designs for domestic water supply plants in this area. Finally it was decided to adopt chlorination and a proportional-to-flow chlorinator was installed on the water being pumped from the wells into the sump. By maintaining a very slight chlorine residual at the end of our lines, the unpleasant taste of the water has been improved, the debris of bacteria filaments has almost been eliminated, and the frequency of cleaning of the heat exchangers on the air conditioners has been reduced.

Some of the work one of the authors has been in contact with at another mill was concerned with a pilot plant study of aeration towers for sulphide removal. In one series of investigations starting with a new aeration tower, very little removal of sulphide was found to occur for samples leaving the tower but retention in a closed bottle at pH 7.5 resulted in a drop of sulphide from 1.8 to 0.5 p.p.m. However, the chlorine demand of the water was reduced only slightly from 9 to 8 p.p.m. in the bottle and not in proportion to the decrease in sulphide concentration. If the pH of the water sample in the bottle was raised to 10 (as it would be in a softening operation) immediately after leaving the aeration tower, neither the sulphide or the chlorine demand were reduced on standing. Further work brought out the necessity for allowing a growth of Beggiatoa to take place in the aeration tower before it became effective for reducing not only the sulphide but the chlorine demand from 9 to 2 p.p.m.

Conclusion

In general we can say that these studies indicate the very important role of sulphur bacteria in conjunction with aeration for the removal of sulphide and reduction of chlorine demand. These considerations are important where the water is to undergo a subsequent softening operation followed by chlorination before use in the mill process.

Acknowledgement

Credit should be given to C. L. Smith and W. S. Cummings of the Jacksonville, Fla. mill of Owens-Illinois for the pilot plant studies on sulphide removal that have been mentioned in this paper.

Editor's Note — In the course of their work the authors made a most comprehensive study of the literature on color and sulphide removal. A review of this will be published in our issue of July 21.

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How New York & Penn. Trains Mechanics in Bearing Maintenance

An eighteen-hour course on bearings and lubrication for mechanics has been successful and worthwhile.

John O. Walker

Manager of Employee Development
Lock Haven Division
New York & Pennsylvania Co. Inc.

When mechanics with years of experience attend a training course voluntarily on their own time and without pay, request that sessions be extended from two hours to three hours in length, and sincerely comment that the sessions become more interesting as the course progresses, we feel this course must have hit the mark. When, following the course, there is evidence that what we taught is being applied, we are convinced that our efforts were not in vain.

Purpose of Course

We prepared our 18-hour course in "Bearing Maintenance and Lubrication" to accomplish a specific purpose—to help our mechanics discover the "why" as well as the "what" and "how" of their work with bearings. We believed that we could prolong the average life of the many thousands of bearings operating in the mill by developing in the mechanics a better understanding and appreciation of bearing maintenance. It took six months to prepare the first draft, and during the next six months we revised the course and presented it twice. How effective our course will be only time will tell, but the immediate results are very reassuring. While this course might not satisfy the needs in other mills, we believe others may be interested in our experiences in developing the course.

The topic for this course was not taken from a textbook—it was recommended by our own maintenance supervisors and foremen. These men met and proposed over 30 topics for courses which they felt would benefit their mechanics. Bearings and lubrication were the topics which they considered most important.

We built our own course from the bottom up for the very simple reason that we just could not find a complete course for mechanics in the maintenance and lubrication of bearings. Furthermore, most of the manuals and films available were designed for technicians and engineers, not for mechanics. So from a great many sources we proceeded to select and organize the material we thought would be most helpful to our men.

Summary of Sessions

It was at once apparent that the topics of bearings and lubrication could not be completely separated—they just naturally went together. However, we did decide to have a final session dealing largely with the characteristics of lubricants and methods of application. The function of lubricants would have to be a part of our discussions on bearings. In its present form the course is made up of six 3-hour sessions, very briefly summarized as follows:

1—A non-technical discussion of bearing metals and the behavior of metals, followed by a detailed explanation of the steps taken in relining a babbitt bearing.

2—A non-technical explanation of the "Boundary" and "Fluid-Film" systems of lubrication, followed by a discussion of approved practices in grooving and mounting plain bearings.

3—A review of the types and uses of anti-friction bearings, the causes of friction in anti-friction bearings, and a discussion of bearing classification and interchangeability.

4—A discussion of bearing "fits," followed by a step-by-step procedure for mounting anti-friction bearings.

5—A step-by-step procedure for removing anti-friction bearings, followed by a technique for diagnosing bearing failures, and a discussion of bearing seals.

6—A non-technical description of the characteristics and uses of oils and greases, the outline of a procedure for lubricating bearings, and a discussion of the methods of applying lubricants. (Upon the request of some of the men in the first class, a seventh session was added dealing with the packing of centrifugal pumps, but this will probably be incorporated in a different course later on.)

Preparation of Material

We were guided in our selection of material by a firm conviction that the course would include only enough engineering data and "theory" to clarify and support the practices we proposed. Also, this type of information was carefully edited in order to make it meaningful to the average mechanic. We were also equally determined that the procedure would not be the usual lec-

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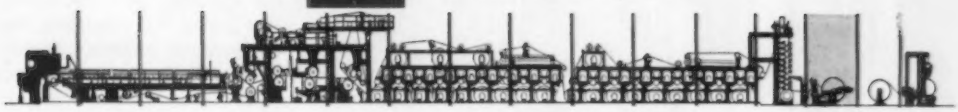

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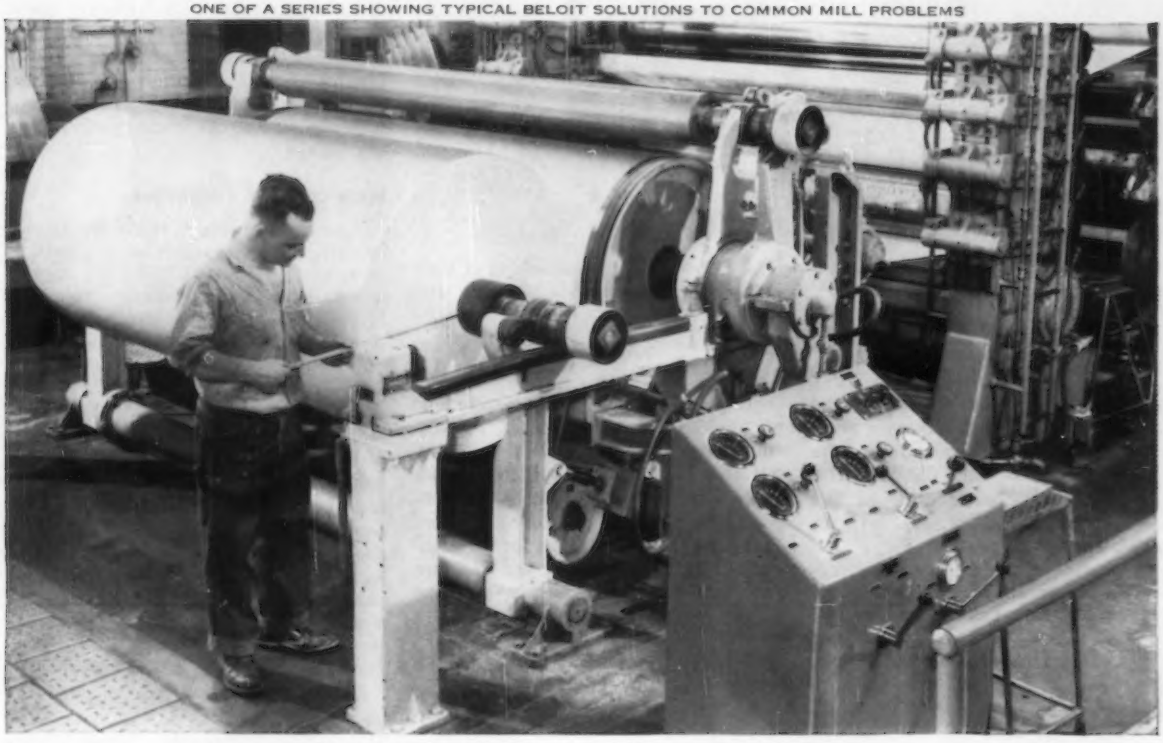

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Hubert Parker, division engineer, explains the distribution of pressure in a plain bearing during the second session of the course in "Bearing Maintenance and Lubrication."

ture, followed by a "bull-session." The men were urged to break in with questions and suggestions while they were still "hot" and not wait for a general discussion at the conclusion of the session. This proved to be a very attractive feature of the course.

To provide focal points for instruction and discussion, a set of eighty-four 27½ inch by 35½ inch flip charts were prepared. These helped to emphasize, through brief statements and diagrams, the most important items. These charts not only helped to keep discussions on the subject, but were also very helpful to the men in taking notes during the presentation. To make possible the step-by-step development of a topic, each chart was limited, whenever possible, to a single idea. We learned the hard way that a chart burdened with many ideas is confusing and of little help to the instructor.

How Course Was Run

Many bearings, seals, lubricating devices, etc. were displayed and passed among the men. Several sound slide films borrowed from bearing and lubricant manufacturers were used at the beginning of some sessions to help in reviewing the material covered in the previous session. A number of manuals and pamphlets supplied by manufacturers of bearings and lubricants were distributed to the men after the topics which they covered had been discussed in class. In future presentations we plan to demonstrate as well as describe the procedure for pouring a babbitt bearing.

Since this course was to be offered to men with considerable experience in bearings work, we felt that a technique of "diplomacy" was in order. For example, the blunt statement that a babbitt liner should not be melted from its shell with an open flame would undoubtedly provoke a useless argument. Therefore we set the stage for this conclusion by first discussing the structure and behavior of metals. When the matter of removing an old liner from its shell came up some time later, the men themselves explained that melting out the old liner with a torch would "burn" the babbitt.

Agreement on Fundamentals

This technique of getting agreement on fundamentals before discussing actual practices paid off to the very special satisfaction of the instructor during the second session. Word reached the instructor that a few of the men were waiting patiently to floor him with an argument when he reached the topic of grooving plain bearings. But during the discussion the men discovered how grooves become "drainage ditches" in the pressure area of a sleeve type bearing. When the subject of grooving came up there was no argument—agreement had already been reached. Many times it appeared that the men were "one jump ahead" of the instructor. This condition came about very naturally when the men grasped the significance of these preliminary discussions.

How-to-do-it Technique

Another technique which we found effective was the step-by-step development of "how-to-do-it." We are deeply indebted to our division engineer, Hubert Parker, who wrote the text for the course and also served as instructor. His many years of experience made possible a practical and detailed explanation of procedures in an interesting and convincing manner. Because of his familiarity with the real problems confronting the mechanic, he was able to concentrate on matters which directly concern the mechanic, and to avoid the confusion of irrelevant material. Also, his talent for expressing himself in a phraseology which was familiar to the men accounted in large part for the special interest shown by the men during and after the presentation.

It is encouraging to an instructor to have men agree in class that certain practices are desirable. Seeing these practices applied on the job is a very gratifying experience. Recently one of the men who took the course told of a pump bearing which was repeatedly giving trouble. Examination indicated that it had not been grooved according to our recommendations. So he reasoned "maybe there's something to this business about grooving bearings after all." Conclusions reached in class were translated into practice and the bearing has given no further trouble. We feel that the hours of work that went into preparing the course are beginning to pay off.

Conclusions

Our experience indicates that you will not find the answers to all your problems neatly bound on a library shelf. You will have to prepare your own answers to your own problems. Furthermore, specific problems demand specific answers—not generalities. A heavy-handed mechanic will not be "cured" by a course in mechanical engineering. Rather, he needs to be shown, in a down-to-earth manner, some of the facts of life (bearing life, that is).

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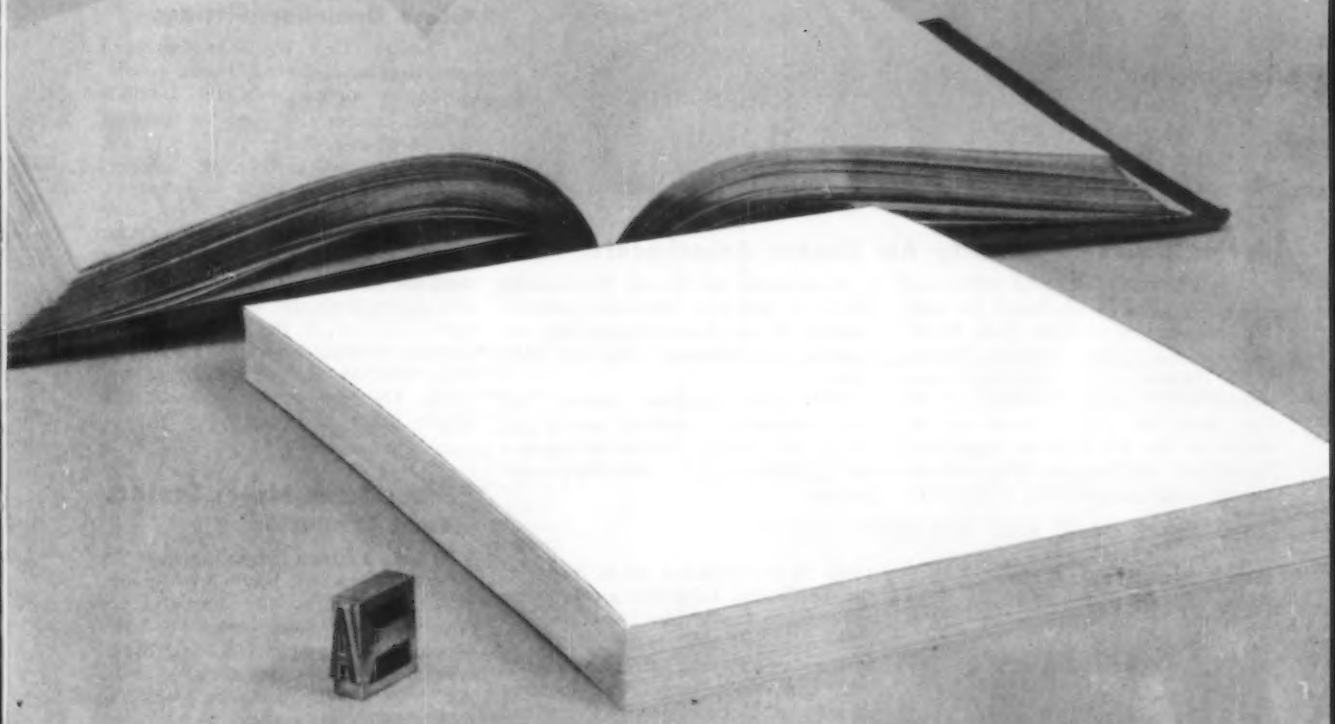

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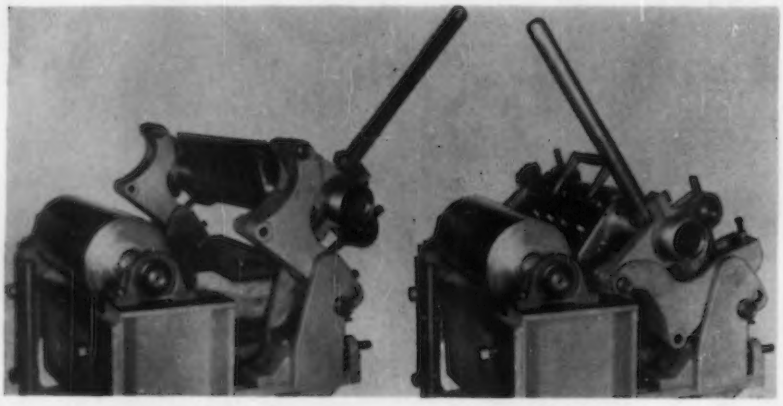


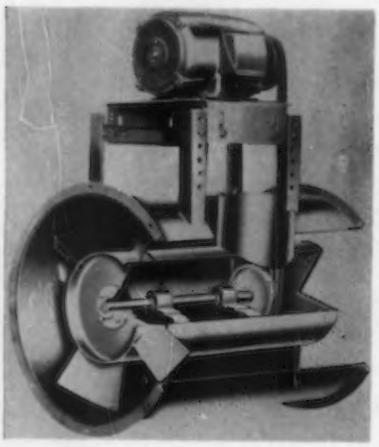
Better Brackets Simplify Air Doctor Adjustments

Simplified and improved adjustment of the Warren-Dilts air doctor for coating machines is available from Black-Clawson Co., Dilts Division, Fulton, N. Y. The main feature is a new bracket design which allows pivoting of the lips about the impact center of the doctor so that the angle of impact can be altered without disturbing or requiring other compensating adjustments.

As an additional feature, the brackets allow an improved retraction position, making the air doctor blades very accessible for cleaning. (See left-hand photo.)

The newly designed bracket, for which patents are pending, can be furnished for existing Warren air doctors and is interchangeable with the present bracket.

Duct Mounted Axial Flow Fans



A new line of motorized axial flow fans (Series 300) for mounting directly in ducts and stacks for exhaust or supply air applications is available from the Westinghouse Electric Corp., Sturtevant Div., Boston, Mass.

In seven sizes for ducts and stacks from 18 to 42 inches inside diameter, the fans, called Tubeaxial, are available in ratings to handle from 2410 to 36,700 c.f.m.

The compact fans are equipped with inlet and outlet flanges for mounting directly in ductwork or stack and are rugged and dependable for exhausting high-temperature air or gases. In addition, the fans are designed for simple application of corrosive-resistant coatings or construction with special metals to handle corrosive or explosive atmospheres.

Separate fan and motor platforms are eliminated on the standard motorized units, and the anchored shaft design permits universal mounting in both horizontal and vertical stacks or ducts.

Pneumatic Relay Computes & Compensates

A new pneumatic relay which solves equations continuously by combining two or more pneumatic signals in varying, predetermined proportions is being manufactured by Bailey Meter Co., 1050 Ivanhoe Road, Cleveland, Ohio.

The relay multiplies or divides one pneumatic signal representing a measured variable by some predetermined function of a second variable. Standard unit also adds and subtracts pneumatic signals and provides proportional control action.

Users in process plants will find it well suited to the ratioing of two flows in multi-element control systems, and to pressure-temperature compensation of liquid or gas flow measurement.

The Bailey computing relay uses standard SAMA ranges of 3-15 p.s.i.g. and 3-27 p.s.i.g. Approximate size: 8½ by 11 by 9 inches deep.

Glass Drainline Fittings

Corning Glass Works is making a complete line of Pyrex "Double Tough" fittings for application in glass drainline systems, extensively used in handling corrosive wastes. Sizes of the fittings range from 1½ to 6 in. in diameter.

The fittings are made of tempered, high-strength Pyrex brand borosilicate glass which is reportedly more resistant to corrosives than any other material used for drainlines. The glass is affected only by hydrofluoric acid and hot alkalis. Because of their smooth, hard surface, the glass fittings are resistant to scale build-up and other surface deposits. The heat-resistant material can handle temperatures up to 450°F.

Encapsulated Motor Stators Guard Insulation

Making a strong bid for applications once considered the prime area for enclosed motors, is the recently announced encapsulated motor by Allis-Chalmers. By completely casting open-type motor stators in an epoxy resin, A-C has produced complete protection for the insulation system.

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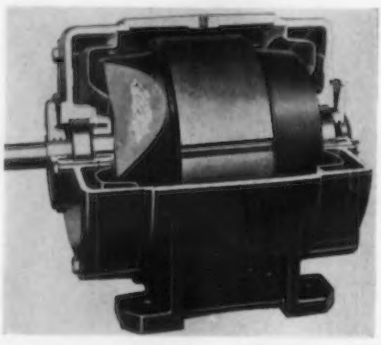

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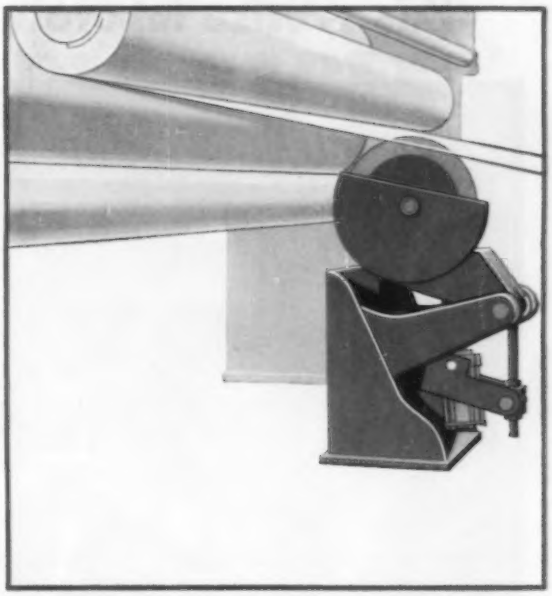

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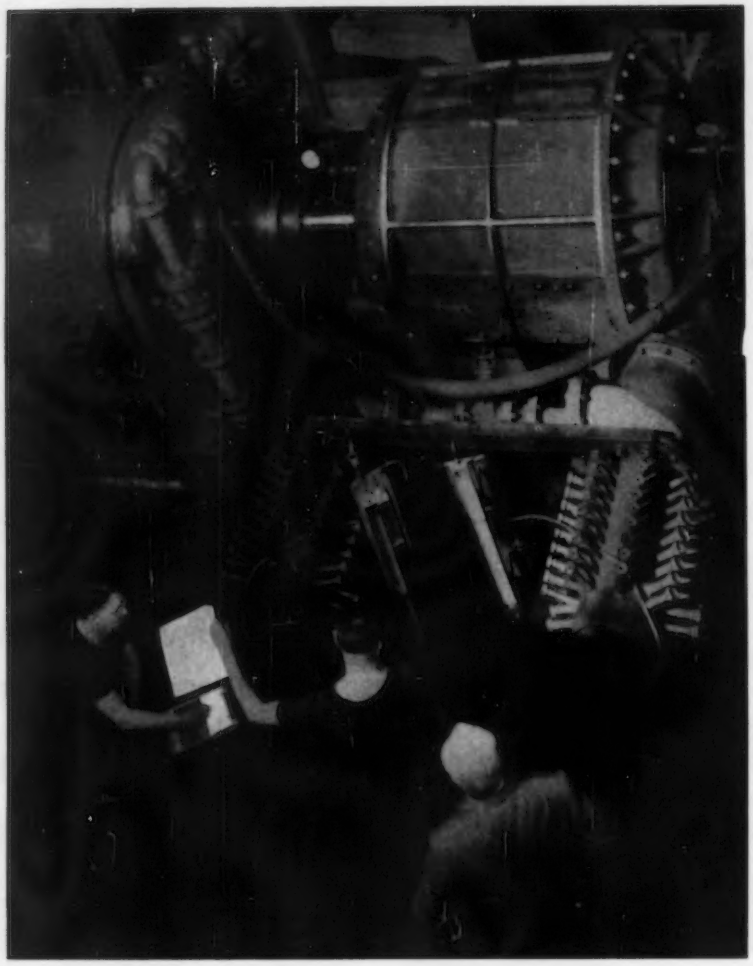

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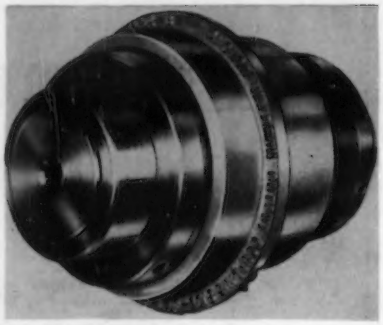


Cutout Coupling Ends Overloading

A new coupling with a cutout feature provides overload protection, increased misalignment capacity, and ease of maintenance.

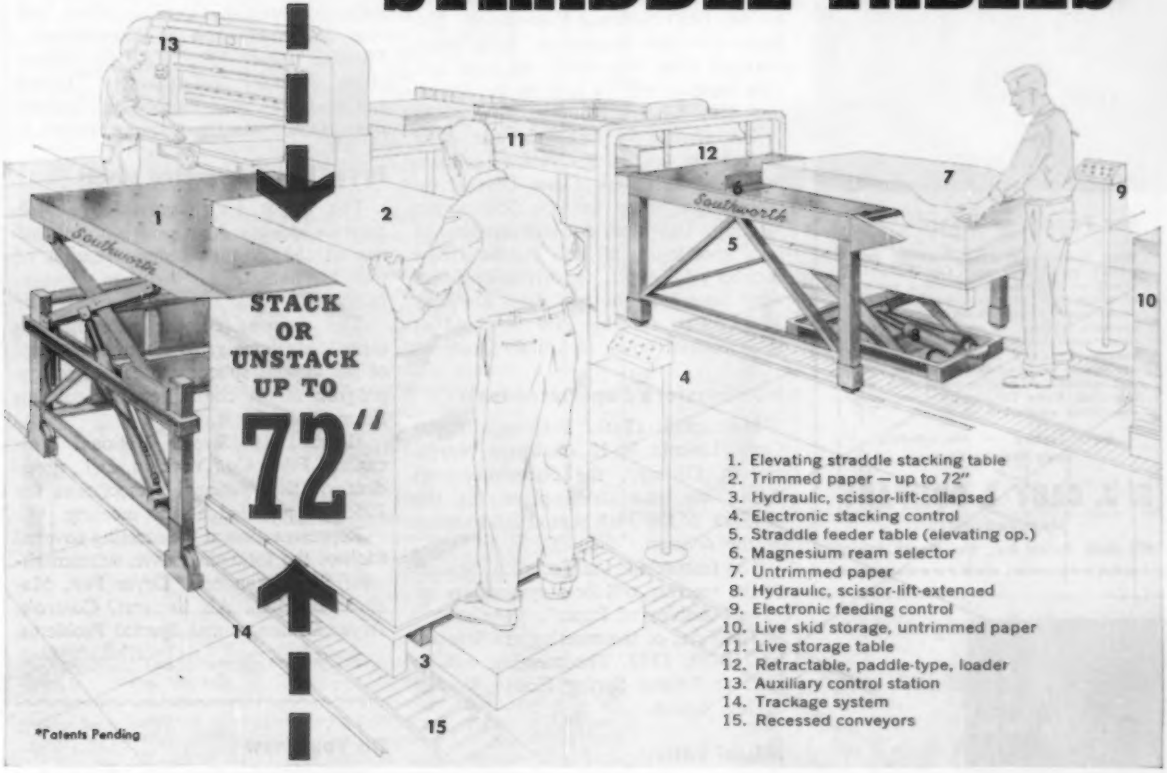
The coupling's cutout is a torque sensitive device which acts like a clutch to shut off the power in the instance of dangerous overload. Increased misalignment capacity, provides for slight parallel misalignment, angular misalignment or a combination of both. Increased stresses and loads on the connected equipment caused by misalignment can be prevented by careful installation of the coupling. The coupling works regardless of direction of rotation. Simple construction of the cutout coupling makes it easy to service; only the sleeve of the coupling needs to be moved for maintenance.

For details on the Anchor-Waldron cutout coupling, ask for bulletin 51 from the John Waldron Corp., New Brunswick, N. J.

Chipper Spout Has Log Holder to Stop Plugging

To minimize wood jamming and accompanying jam hazards, D. J. Murray Mfg. Co., Wausau, Wis., has introduced a V-type chipper spout which incorporates a pneumatically operated wood holding device. Operating from the normal mill air supply, the holding mechanism can be actuated to stop any log entering the chipper, thereby preventing chipper spout plugging. The wood holder is reported capable of holding any size log regardless of size.

SOUTHWORTH'S NEW
self-elevating
STRADDLE TABLES*



*Patents Pending

minimum capital investment, per pair, pays off in maximum trimmer production engineered to prevent idle time, eliminate manual lifting, conserve floor space 1000 lb. capacity, sheet size 52 x 76 — air film buoyance protects sensitive stock.

What is the present speed at which you can de-skid, feed your mill trimmer, trim, unload and stack as high as 72 inches? For it is that speed which determines to a great extent the efficiency, and in turn the cost, of your finishing room operations.

Would you like to double that speed? Southworth Straddle Tables have done even better in other mills . . . primarily by reducing manual handling to a minimum and by permitting *full time operation of the trimmer, itself.*

Could the typical three-man layout, illustrated above, be adapted to your mill on a self-liquidating basis? We believe it can. The equipment cost is surprisingly reasonable . . . the installation cost equally low, as no excavating is necessary.

For Details Write or Call Collect:

SOUTHWORTH MACHINE CO.

277 WARREN AVENUE, PORTLAND, MAINE, SPRUCE 4-1424

Mfrs. of Paper Conditioners; Automatic Skid Lifts; Lift Tables; Skid Turners; Hand, Foot, Motor Driven Punching Machines; Humidifiers; Envelope Presses; Punch Heads; Tabbing Knives and Corner Cutters plus Custom Built Equipment.

Cady
UNIFORM PRESSURE
Burst Strength Tester

For Papers or Boards

This instrument meets ASTM and TAPPI standards; also CCC Rule 41 (Cady or Mullen Test), with a record of more than 30 years service in the paper and board industry. Uniform pressure during 12 second cycle assures uniform test on papers or boards. Pressure registers in pounds per square inch on direct reading dial and remains at reading until next test is stated. Write for complete brochure describing operation in detail.

Burst Testers • Micrometers
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PIONEER PAPER STOCK COMPANY

graders and packers of waste paper

SUPERINTENDENTS ASSOCIATION NEWS

Dates for Two Supts. Meetings Changed

The Superintendents Assn. has announced a change in its meeting dates for the 1959 National Convention. The dates for the convention have been changed from May 18-21 to June 2-4. This meeting will be held at the Shamrock Hilton hotel, Houston, Texas.

The change in dates for the 1959 convention of the National Assn. prompted its Pacific Coast Div. to establish new dates for its 1959 spring meeting. The dates for this meeting, a joint meeting, with the Pacific Coast Section of TAPPI, as originally fixed, were June 4-6. The new dates are May 21-23. This meeting will be held at the Gearhart hotel, Gearhart, Ore.

Northeastern Superintendents

Maurice J. Clark, Franconia Paper Corp., Lincoln, N. H., chairman, Northeastern Division, the Superintendents Assn., has announced plans for the program of the 38th annual fall meeting of the division.

The feature for the Technical Session of the meeting will be a symposium on "The Finishing of Paper".

The dates of the meeting are September 18-20, 1958. The meeting will be held at Poland Spring House, Poland Spring, Maine.

Miami Valley

William Zimmerman, Moraine Paper Co., West Carrollton, Ohio, was elected chairman of the Miami Valley Div. of the Superintendents Assn. at its annual meeting held on June 13, 1958 at Piqua, Ohio.

Elected with Mr. Zimmerman were, James Ozias, Oxford-Miami Paper Co., West Carrollton, Ohio, 1st vice chairman; R. O. Stephenson, Champion Paper & Fibre Co., Hamilton, Ohio, 2nd vice chairman; and William Martin, Moraine Paper Co., West Carrollton, Ohio, secretary and treasurer. Donald J. Goodman, Sorg Paper Co., Middletown, Ohio, was the retiring chairman.

Dryer Felt Committee Meets

The Dryer Felt Committee of the Superintendents Assn. met on the last day of the 39th annual convention of the National Assn. held in Boston, Mass.

The purpose of the meeting was three-fold, namely: to discuss the work of the various subcommittees, to review progress of the committee, and to plan future work for it.

Howard H. Street, National Vulcanized Fibre Co., Yorklyn, Del., president of the National Association for 1955-56, presided at the meeting.

Representation at the meeting covered each of the following seven subcommittees: Superintendents, Dryer Felt, Machine Builders, Air Systems, Controls, Dryer Drainage, and Special Problems.

Do You Know

What city or town in the United States has the largest number of mills inside its borders?

Holyoke, Mass. is first, followed by Los Angeles, Calif. and Kalamazoo, Mich.

Alvin H. Johnson & Co.
INCORPORATED
Consulting and Designing Paper Mill Engineers
415 LEXINGTON AVENUE NEW YORK 17, N. Y.
PAPER MILL DESIGN PROCESS ENGINEERING POWER PLANTS
STRUCTURAL AND ARCHITECTURAL DESIGN
REPORTS APPRAISALS ESTIMATES AND SURVEYS

HANDMADE PAPERS OF JAPAN

THE HANDMADE PAPERS OF JAPAN by Thomas Keith Tindale and Harriett Ramsay Tindale. This study, which is the result of several years of research in Japan, is one of the most ambitious works on the subject of papermaking which has ever been attempted. Here is a work, indeed, which is not only a distinguished history of this unique craft, but a veritable museum of paperiana—a collection which contains: actual samples of fabulous old and rare papers, a volume of magnificent contemporary papers, and a portfolio of exquisite watermarks. We believe that these particular features, which necessarily limit the size of the edition, can never be rivaled.

Vol. I. The Handmade Papers of Japan.
Introduction by Dard Hunter and Bibliographical Guide for Students of Japanese Hand Made Papers by Bunsho Jugaku. *Complete history and description of papermaking in Japan,* supplemented with botanical drawings, and a series of 32 full-page photographs by the distinguished photographer, Francis Haar. The text also includes *facsimile hand-colored reproduction, with translation, of the oldest Japanese illustrated work on papermaking — the KAMISUKI TAIGAI,* which was done in 1784.

Vol. II. The Seki Collection.
Portrait and biography of Mr. Seki, with 187 actual mounted specimens of paper from his collection. These samples range in date from the Nara Period (710-793) to the present day. Each sample, which has been carefully authenticated, bears a complete description about its general type and method of manufacture.

Vol. III. The Contemporary Collection.
A volume of whole-page samples of 139 different papers from 18 Perfectures and the city of Kyoto—a representative cross section of handmade papers now being produced in the various districts under present-day conditions. The name, materials, place of manufacture, and use of each paper is given.

Vol. IV. The Watermark Collection.
A portfolio of 20 of the most modern Japanese watermarks made in the mills of the Government Printing Agency at Oji and Saidaiji. The process of hand rubbing by which these transparencies are made is described in Volume I. These exquisite samples contain elaborate landscapes and seascapes, Noh drama masks, flowers, fruit, Japanese women in native costumes and other characteristic designs. The watermarks, which have been laid in loose so they may be easily examined and exhibited, are done on specially-made colored papers. They are accompanied with a two-page introduction and a three-page descriptive catalogue.

The Fibres Envelope, containing labeled specimens of the five different fibres which are used in Japanese paper making.

PRINTED ON HAND MADE PAPER, WITH TYPE SET BY HAND. $250.00 Remittance must accompany order.

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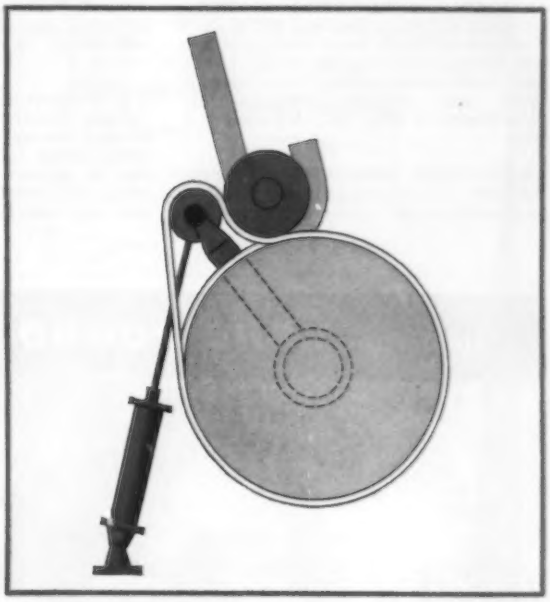
ONE OF A SERIES SHOWING TYPICAL BELOIT SOLUTIONS TO COMMON MILL PROBLEMS



Beloit reel spool starter

• Poor starts at each turnover?
• Spool bounce and chatter?

Beloit Reel Spool Starter eliminates needless paper loss

This low-cost item can pay for itself in weeks! Mills report that with the addition of a Beloit spool starter to an existing reel they save hundreds of pounds of paper daily. With this device the spool is at drum speed before contacting the reel drum. No bounce! No chatter!

» **ACT!** *Write for facts—or let a Beloit Sales Engineer show you the economy and operating advantages of a Beloit reel spool starter. Send inquiry to Beloit Iron Works, Beloit, Wisconsin.*

100 YEARS **BELOIT**
PAPER MACHINERY
your partner in papermaking

NEW LITERATURE

ALLIS-CHALMERS TEFC MOTORS. (Bulletin 51B8991) Portrays the motor's tube-type air-to-air heat exchanger system, bearing construction, frame, stator, and rotor construction. Available in stand and explosion-proof designs. **Allis-Chalmers Mfg. Co.,** Milwaukee 1, Wis.

ANHYDROUS AMMONIA. (Technical Bulletin 52) Contains information on physical-chemical properties, specifications and Sun's shipping and service facilities. **Sun Oil Co., Industrial Products Dept.,** 1608 Walnut St., Philadelphia 3, Pa.

B & W QUALITY CONTROL. (Bulletin TB-420) Illustrates and tells about the various testing and inspection methods used during the manufacture of their line of seamless and welded carbon, alloy and stainless steel tubular products and explains how these techniques are integrated into the manufacturing process. **Babcock & Wilcox Co., Tubular Products Div.,** Beaver Falls, Pa.

AUTOMATIC INDUSTRIAL TRUCKS. (Selector Guide) Enables the industrial truck user to choose the type best suited to meet his job requirements. Also describes tractors along with a number of attachments for special or unusual applications. **Automatic Transportation Co.,** 149 West 87th St., Chicago, Ill.

A GUIDE TO BETTER CLOSURES. (Booklet) Contains a collection of reliable information on closure methods, the facts of which have been taken from user surveys, etc. Also includes a section on wire stitching for all kinds of fiberboard boxes. **Acme Steel Products Div., Acme Steel Co.,** 135th & Perry Ave., Chicago 27, Ill.

BELLOWS FLOW METER. (Catalog C 22-1) Covers the features, specifications and applications of this meter. Also describes one designed for flow and liquid level in open tanks, and the other for liquid level in closed tanks under pressure or vacuum. **Minneapolis-Honeywell Regulator Co.,** Wayne & Windrim Aves., Philadelphia 44, Pa.

CLARK-AIKEN STANDARD LIFT TABLES. (4p Bulletin) Details the features and operation and lists specifications of their three standard size tables. **Clark-Aiken Co.,** Lee, Mass.

CONTROL COMPONENTS. (Product Specification P99-9) Gives specifications for Bailey remote adjustable computing relay with pneumatic operator. **Bailey Meter Co.,** 1050 Ivanhoe Rd., Cleveland 10, Ohio.

DON'T BUY IN THE DARK. (Form D817) Discusses the make-up and maintenance of track rollers. Also includes drawings, cutaways and photographs to point up individual features. **Advertising Div., Caterpillar Tractor Co.,** Peoria, Ill.

SWENSON PARALLEL FLOW SPRAY DRYERS. (Bulletin SW-401) Shows advantages of the spray drying process. Also illustrates and describes the latest installations. **Swenson Evaporator Co.,** 157th & Lathrop Ave., Harvey, Ill.

THE FLAKT PULP DRYER WITH AIRBORNE WEB. (Brochure) Illustrates the principles and enumerates the advantages of this Swedish pulp dryer. **American SF Products, Inc.,** 120 Lexington Ave., New York 17, N. Y.

YOU CAN MOVE TONS EASILY. (Circular 26B) Simplifies the selection of hand lift trucks. Also gives tips on where and how hand lift trucks are best utilized in plants and warehouses, as well as on shipping and receiving docks. **Lewis-Shepard Products, Inc.,** 125 Walnut St., Watertown 72, Mass.

INDUSTRIAL INSULATING MATERIALS. (20p Catalog) Presents the thermal, mechanical and physical, and chemical characteristics of its complete line. Also provides an insulation selection chart which indicates the temperature ranges of all included types. **Industrial Insulating Div., Baldwin-Hill Co.,** 500 Breunig Ave., Trenton 2, N. J.

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BITUSIZE® *improves performance of heavy-duty, hard sized boards*

Returnable beer cases have to "take a beating and come back for more." Rough handling, high stacking, and storage in damp or wet coolers are every-day "occupational hazards." Bitusize "B" is used by many case manufacturers to insure a high level of wet and dry strength in the board they use. *This means more round trips for every unit they turn out.*

When boxes, cases or cartons must stand up under such conditions, Bitusize "B," an integral sizing material, will considerably extend their "life-expectancy."

We will welcome an opportunity to answer any question you may have on the use of Bitusize. *Contact our office nearest you for complete information.*

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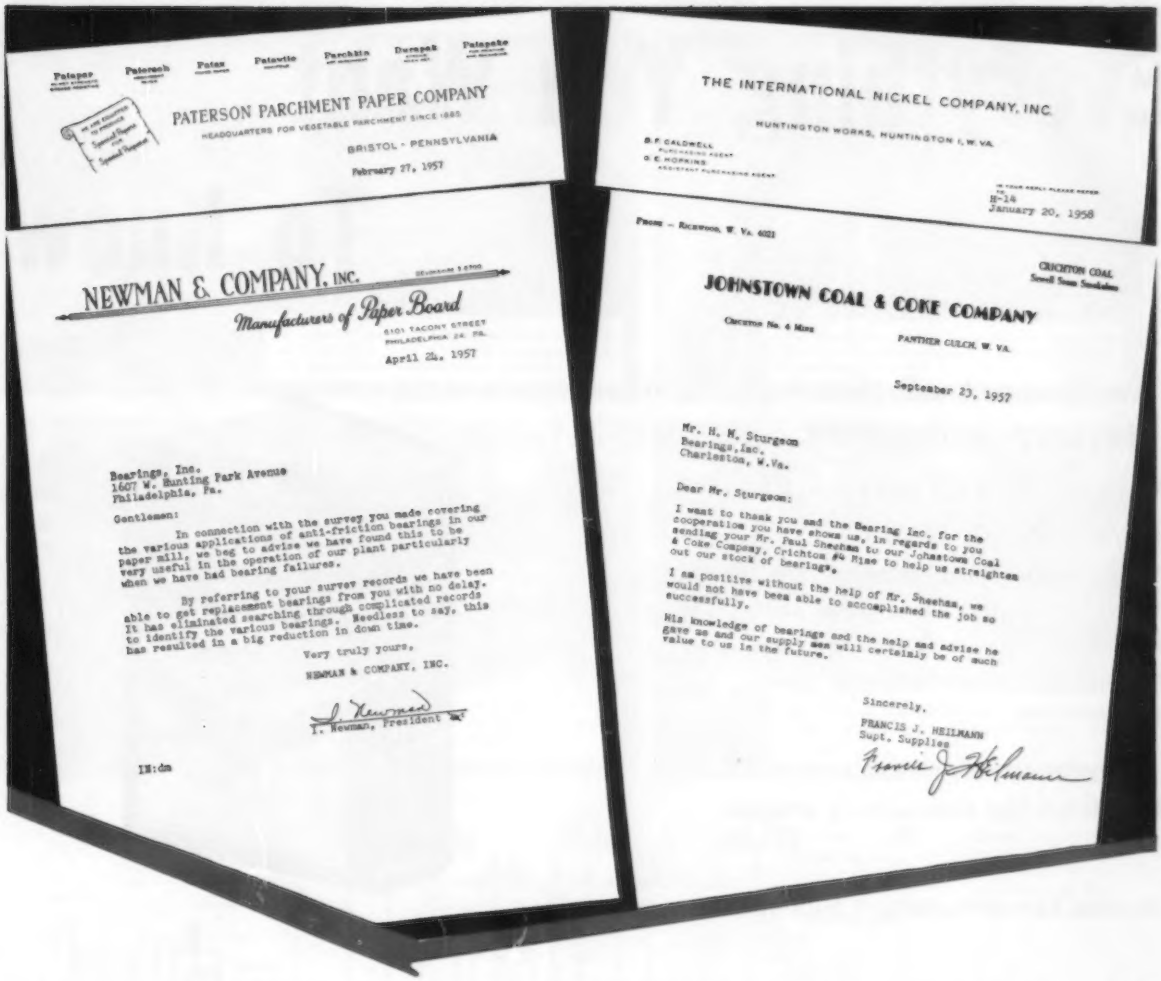

PATERSON PARCHMENT PAPER COMPANY
HEADQUARTERS FOR VEGETABLE PARCHMENT SINCE 1885
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February 27, 1957

THE INTERNATIONAL NICKEL COMPANY, INC.
HUNTINGTON WORKS, HUNTINGTON 1, W. VA.
B-14
January 20, 1958

NEWMAN & COMPANY, INC.
Manufacturers of Paper Board
April 24, 1957

Bearings, Inc.
1607 W. Hunting Park Avenue
Philadelphia, Pa.

Gentlemen:

In connection with the survey you made covering the various applications of anti-friction bearings in our paper mill, we beg to advise we have found this to be very useful in the operation of our plant particularly when we have had bearing failures.

By referring to your survey records we have been able to get replacement bearings from you with no delay. It has eliminated searching through complicated records to identify the various bearings. Needless to say, this has resulted in a big reduction in down time.

Very truly yours,
NEWMAN & COMPANY, INC.
I. Newman, President

IN:dn

From — Richwood, W. Va. 4021

CRICHTON COAL
Small Seam Specialists

JOHNSTOWN COAL & COKE COMPANY
Cheverne No. 4 Mine
PANTHER GULCH, W. VA.

September 23, 1957

Mr. H. M. Sturgeon
Bearings, Inc.
Charleston, W.Va.

Dear Mr. Sturgeon:

I want to thank you and the Bearing Inc. for the cooperation you have shown us, in regards to you sending your Mr. Paul Sheehan to our Johnstown Coal & Coke Company, Crichton #4 Mine to help us straighten out our stock of bearings.

I am positive without the help of Mr. Sheehan, we would not have been able to accomplished the job so successfully.

His knowledge of bearings and the help and advise he gave us and our supply men will certainly be of much value to us in the future.

Sincerely,
FRANCIS J. HEILMANN
Supt. Supplies
Francis J. Heilmann

Know what a Bearing Survey is?
These companies do and they like the money it has saved them!

We located the bearings in the equipment in these plants—we took the parts numbers of these bearings and converted them to the bearing manufacturers' numbers. All bearings in inventory were examined and, where necessary, cleaned and re wrapped.

All bearings were catalogued and, where it was found that one bearing was used on several machines, as is often the case, it was possible to cut inventories of that bearing drastically.

These companies now have the survey and our branch that performed the survey keeps a copy in its files.

Together they work to keep bearing inventories at the minimum with our branch making certain that it is holding, in reserve, the bearings these companies might require for any emergency.

They know, too, that the products they buy from us will be "factory fresh" latest type bearings. We sell only bearings for which we are authorized distributors.

Want us to make a bearing survey for you? There's no charge and you are not obligated in any way. Just call the branch nearest you.

Providing bearing service in the South→

DIXIE BEARINGS, INC.

FLORIDA: Jacksonville • **GEORGIA:** Atlanta • **KENTUCKY:** Louisville • **LOUISIANA:** Baton Rouge • New Orleans
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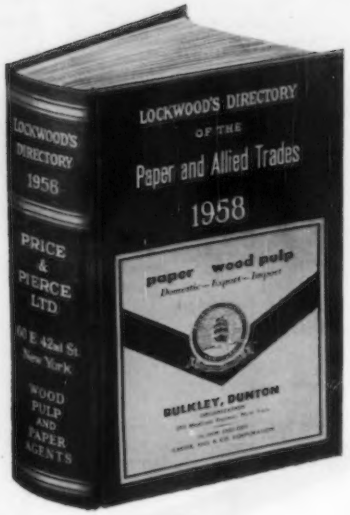
NEW YORK: Buffalo, Balanrol Corp. • **MARYLAND:** Baltimore • **DELAWARE:** Wilmington

Everything You Want To Know

Here's part of the wealth of information the 1958 directory puts at your finger tips...



Paper, Ground Wood, Chemical Pulp Mills—Comprehensive reports of paper and pulp mills in the United States, Canada and Latin America including officers, product, capacity, equipment, etc.

Mill Officials List alphabetically arranged

Classified List of Products of Mills and Converters

Converters of Paper and Board List includes same information as given for paper and pulp mills.

General Paper Merchants keyed to show whether fine or coarse paper is handled, whether firm has warehouse or sells from mill direct, etc.

In Addition there are lists of City Addresses of Pulp and Paper Mills, Equipment Manufacturers and Suppliers, New York City Importers and Exporters, Rags and Paper Stock Dealers, Consumers of Rags and Paper Stock, Pulp Testers, Wood Pulp Agents, Watermarks and Brands, Trade Associations and a Statistical Table.

Order your copy NOW while you think of it!

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49 West 45th Street, New York 36, N. Y.

Gentlemen: Please send, postage prepaid, a copy of the 1958 (83rd) Annual Edition of Lockwood's Directory of the Paper and Allied Trades. Price $12.00.

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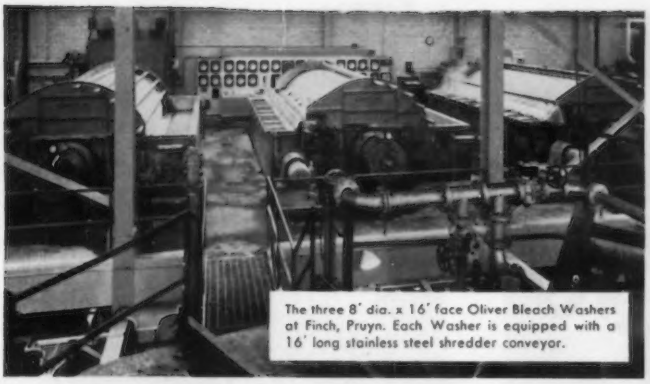
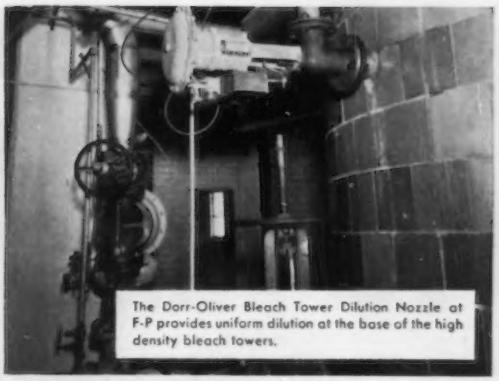
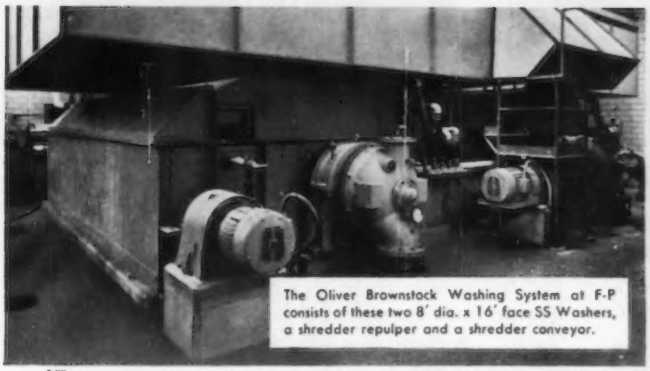
Travelers' edition includes ONLY the reports of pulp and paper mills. Alphabetical mill index. List of mill officials and executives in flexible leatherette cover.



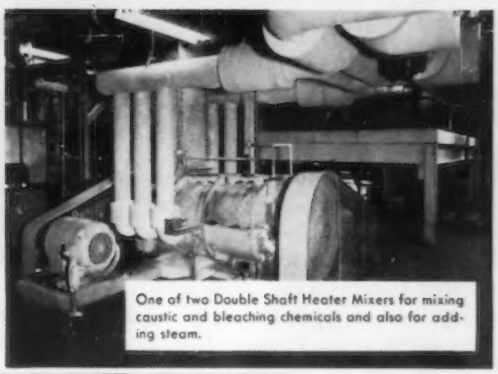
The three 8' dia. x 16' face Oliver Bleach Washers at Finch, Pruyn. Each Washer is equipped with a 16' long stainless steel shredder conveyor.



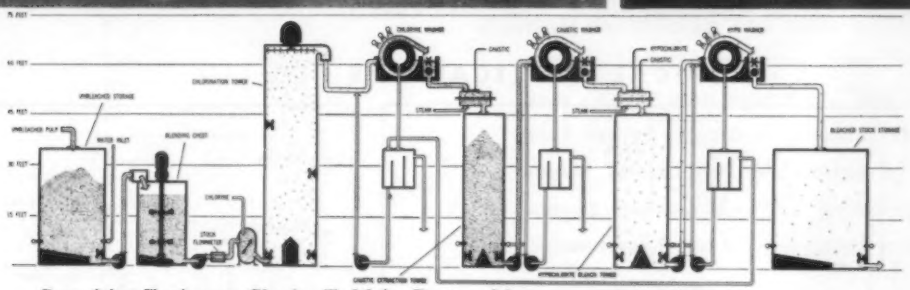
The Dorr-Oliver Bleach Tower Dilution Nozzle at F-P provides uniform dilution at the base of the high density bleach towers.



The Oliver Brownstock Washing System at F-P consists of these two 8' dia. x 16' face SS Washers, a shredder repulper and a shredder conveyor.



One of two Double Shaft Heater Mixers for mixing caustic and bleaching chemicals and also for adding steam.



Flowsheet of Dorr-Oliver Continuous Pulp Bleaching System similar to that employed at Finch, Pruyn and Company.

Consulting Engineers: Charles T. Main, Boston, Mass.

New Hardwood Mill at Finch, Pruyn Equipped with

Dorr-Oliver Continuous Pulp Bleaching System & Oliver Brownstock Washing System

When Finch, Pruyn and Company's new neutral sulphite mill was dedicated late in 1957, it also marked the operation of the first complete Dorr-Oliver Continuous Pulp Bleaching System. Located in Glens Falls, New York, the new multimillion dollar Finch, Pruyn mill is manufacturing hardwood pulp for production of high strength, high brightness, and economically priced printing and converting papers. Present production of the semi-chemical pulp mill ranges between 70 and 100 TPD and is geared for an eventual capacity of 140-150 TPD.

Based on certain equipment designs by the James Brinkley Company of Seattle, Washington, the new D-O Bleach System supplements the existing Oliver Brownstock Washing System, the Dorr Recausticizing System, and the complete line of D-O industrial water and waste treatment equipment which have been commercially available to the pulp and paper industry for many years.

Additional facts, figures and photographs of the bleach equipment may be obtained by writing Dorr-Oliver Incorporated for a copy of Bulletin No. 3305, The Dorr-Oliver Continuous Pulp Bleaching System . . . just released.

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WORLD-WIDE RESEARCH • ENGINEERING • EQUIPMENT
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NO POCKETING PURGING PLUGGING

WITH THE NEW 205T VOLUMETRIC DIFFERENTIAL PRESSURE TRANSMITTER

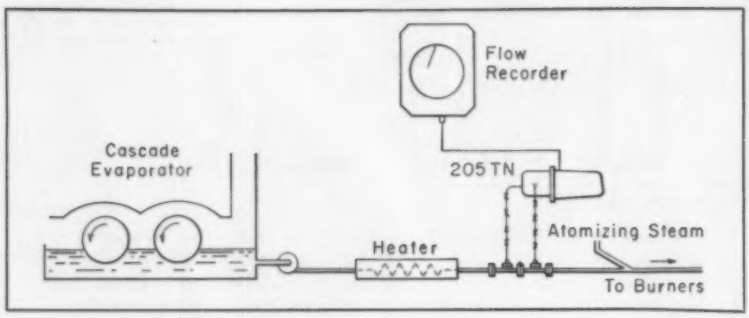
on Stock Flows, Consistency, Black Liquor, etc.

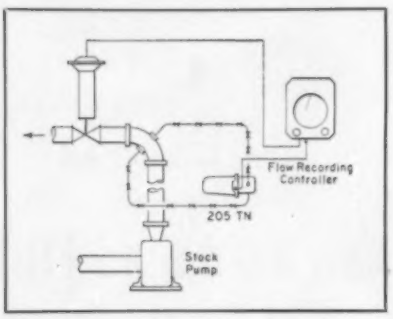
THIS new Taylor Transmitter is completely isolated from the process material. Thus it never has to be purged of deposited material, never suffers from corrosion. The pressure-sensitive diaphragms may be installed flush with the inside of the pipe or tank in a variety of mountings. The temperature limit is 300°F. at the diaphragms. Pressure limit of the instrument is 1500 lbs., and the system is limited only by the flange rating on the primary side.

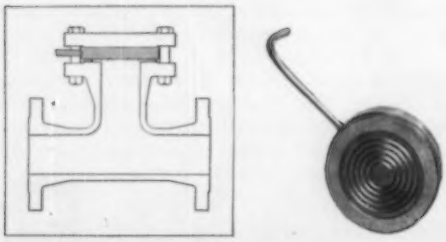
This instrument is a modification of the familiar Taylor 333RD differential pressure transmitter, and is just as accurate, sturdy and dependable.

For full details about this new instrument, ask your Taylor Field Engineer, or write for **Bulletin 98281.** Taylor Instrument Companies, Rochester, N. Y., and Toronto, Canada.

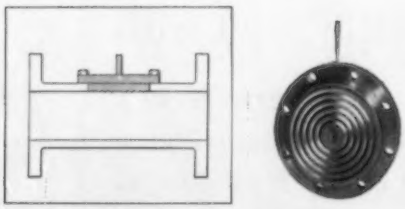
TYPICAL APPLICATIONS







Wafer type sensing element (*above*), for use with standard 3" ASA flange, where diaphragm need not be flush mounted, e.g., corrosive flow or liquid level measurement. Standard diaphragm material, for both types, 316 Stainless Steel; alternates available. Maximum pressure 1500 psi.

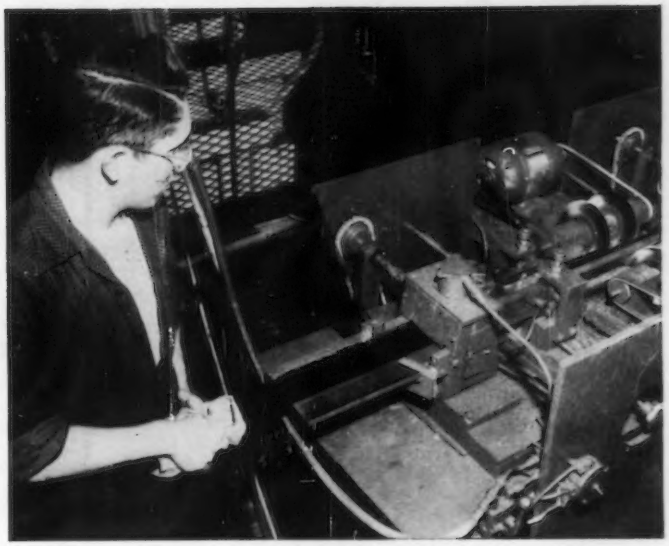


Type 95 flange (*above*), for use with chemical tee. For flow installations where diaphragm is flush with the inside of pipe, so that process fluid imparts a scouring action. Also for liquid level requiring flush installation. Maximum pressure 300 psi.

Taylor Instruments MEAN ACCURACY FIRST

Building the skill of experience into

LODDING DOCTORS...



Donald Kennedy has been deburring blades with a Lodding-made machine five years . . . one of the nine operations that goes into the making of precision blades. The deburring machine, designed and made by Lodding, removes burrs after the grinding operation. Removal of these jagged edges prevents scratching roll surfaces.

The high performance which everyone expects and receives from Lodding Doctors is the result of the care and experience of the team producing them. This is an asset which only comes in specializing in doctors over the years.

During the last ten years, Lodding has made more than 10,000 doctors, 17,000 blade holders and 350,000 blades. Lodding shares this experience with you.

LODDING ENGINEERING CORPORATION
WORCESTER, MASSACHUSETTS

PRICES OF FIBERS

MARKET WOOD PULP

THIRD QUARTER CONTRACT PRICES PER SHORT AIR-DRY TON

Delivered Basis

	U.S.	Canadian	Swedish	Finnish	Norwegian
Groundwood	$82.50/ 90.00	$82.50/ 90.00	‡$90.00/ —	‡$90.00/ —	‡$90.00/ —
Bleached Gw'd.	$97.50/100.00	$97.50/100.00			
Kraft, Blchd.	157.00/ —	160.00/162.50	$157.00/162.50*		$157.50/ —
Kraft, Blchd. Hdwd.	152.00/ —		$137.00/ —		
Kraft, Semi-bleached	140.00/ —	140.00/ —			
Kraft, Unbl.	117.50/125.00	125.00/130.00	†125.00/130.00	125.00/ —	
Sulphite, Blchd.	155.00/ —	155.00/ —	*155.00/ —	*155.00/ —	155.00/ —
Sulphite Bl. Hdwd.	150.00/ —				
Sulphite, Unblchd.	135.00/ —	135.00/ —	†135.00/ —	*130.00/ —	
Sulphite, Unb'l. Gl'sn		134.00/ —	†134.00/ —		
Soda, Blchd.	147.00/150.00	150.00/ —			

‡ On Dock Atlantic Ports. * Freight allowed. † Varying Freight Allowances

NEW YORK RAG MARKET

PRICES NOMINAL

New Domestic Cotton Cuttings

Delivered Mill Basis

	Per 100 lbs.
No. 1 White Shirts	$13.50/$14.50
No. 1 Unblchd. Muslins	16.00/ 17.00
Blchd. & Unblchd. Underwears	15.00/ 16.00
No. 1 Light Cream Silesias	12.00/ 13.00
No. 1 Light Blue Overalls	7.00/ 8.00
Percales	6.00/ 6.50
No. 1 Light Prints	5.00/ 5.50
Suntan Khakis	5.75/ 6.75
Cottonades	3.00/ 3.50
No. 1 Washables	2.50/ 3.25

Old Domestic Cotton Rags

Delivered Mill Basis

	Per 100 lbs.
Mixed White	$3.25/$3.75
Cotton Pants & Overalls	2.25/ 2.75
Twos and Blues, Repacked	2.00/ 2.50
No. 2 Roofing	.60/ .75

COTTON LINTERS

Memphis Market

f.o.b. Oilmills

Week Ended June 27		Per 100 lbs.
Grade 1	n. a.	
2		
3		$9.50/ $8.00
4		7.50/ 7.00
5	1 cut—felting	6.50/ 6.00
6		5.50/ 5.00
7		5.00/ 4.50

*Based on 73% cellulose.

OLD ROPE & BAGGING

(Prices to Dealers, f.o.b. N.Y.)

	Per 100 lbs.
New Burlap Cuts	$4.50/$5.50
Scrap Burlap	3.50/ 4.25
Australian Wool Pouches	5.00/ 5.50
Gunny	4.50/ 5.00
No. 1 Domestic Manila Rope	6.25/ 7.50
No. 1 Foreign Manila Rope	5.25/ 6.25
Domestic Sisal Strings	4.00/ 4.50

WASTE PAPER MARKET

Mill Prices, f.o.b. Trucks Shipping Point — Includes Brokerage

These quotations are a partial indication of the price range on volume tonnage in each market on the date specified, as gathered from major dealers and brokers. SPECIAL PACKINGS AND SPOT TONNAGE NOT INCLUDED. Prices nominal.

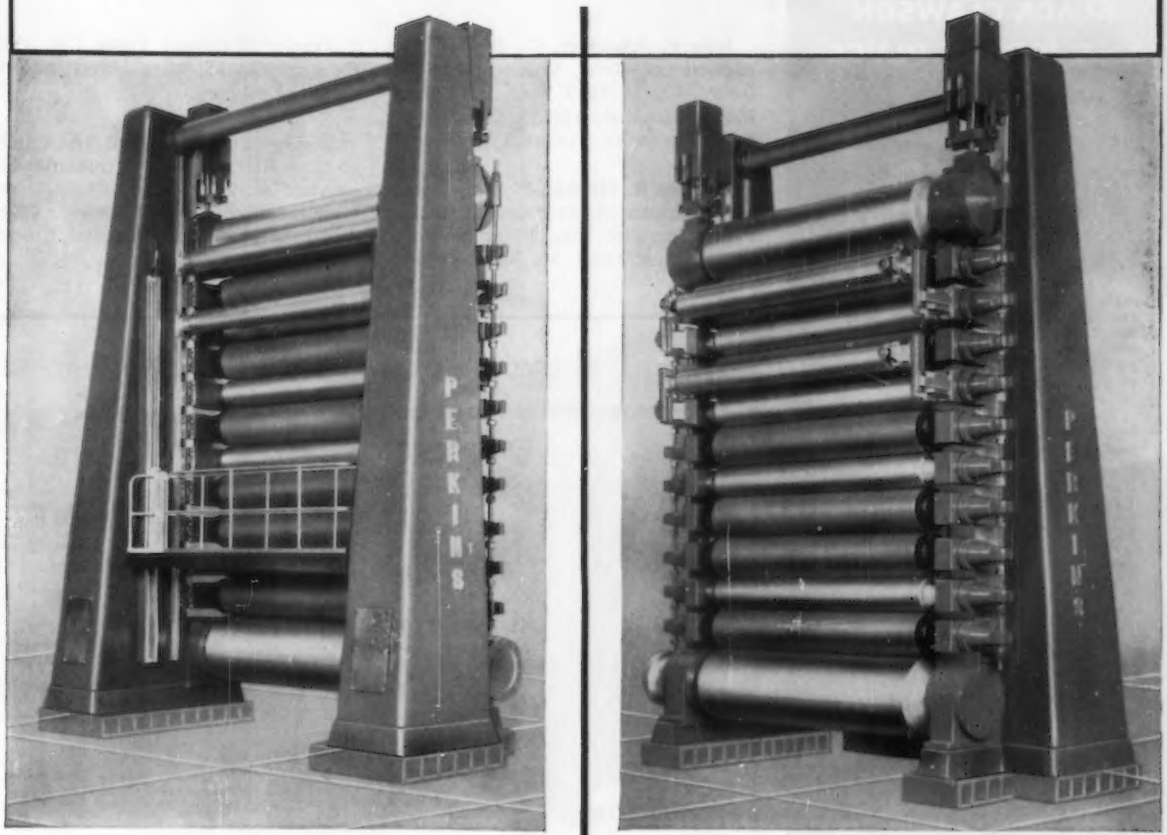
	New York	Boston	Chicago	Los Angeles
	June 30	June 30	June 30	June 30
No. 1 Mixed Paper	$5.00/ $7.00	5.00/ 7.00	4.00/ —	12.00/ —
No. 1 News	11.00/ 12.00	12.00/ —	14.00/ —	14.00/ —
Overissue News (Lg. size)	11.00/ 14.00	11.00/ 13.00	19.00/ —	18.00/ —
Mill Wrappers	10.00/ 13.00	10.00/ 12.00	7.00/ —	13.00/ —
Old Corrugated Containers	21.00/ 22.00	20.50/ 21.00	19.00/ —	20.00/ —
Super Resorted Kraft Paper	30.00/ 35.00	35.00/ 45.00	35.00/ —	45.00/ —
New Double Kr. Ld. Corr. Cuts	25.00/ 30.00	30.00/ 35.00	35.00/ —	30.00/ —
(Semi-chem. medium)	40.00/ 45.00	37.50/ 45.00	40.00/ 45.00	30.00/ 35.00
New 100% Kraft Corr. Cuts	50.00/ 55.00	50.00/ 55.00	50.00/ —	45.00/ —
New Br. Kraft, Env. Cuts	65.00/ 70.00	70.00/ 75.00	50.00/ —	50.00/ 55.00
New Br. Kr. Bag Waste Prntd.	55.00/ 60.00	55.00/ 60.00	50.00/ —	55.00/ 60.00
New Br. Kr. Bag Waste Unprintd	60.00/ 65.00	65.00/ 75.00	60.00/ —	55.00/ 60.00
No. 1 Groundwood Shvs.	21.00/ 25.00	20.00/ 25.00	14.00/ —	30.00/ 35.00
White Newsblanks	42.50/ 50.00	45.00/ 50.00	35.00/ —	55.00/ —
No. 1 Soft White Shvs.	55.00/ 60.00	60.00/ 65.00	55.00/ —	— / —
Super Soft White Shvs.	65.00/ 75.00	75.00/ 85.00	65.00/ —	— / —
Hd. White Shvs.	85.00/ 95.00	95.00/105.00	85.00/ —	85.00/ 90.00
Hd. White Env. Cuts	105.00/110.00	110.00/115.00	90.00/ —	100.00/110.00
Col. Tab. Cards	50.00/ 55.00	55.00/ 60.00	47.50/ —	32.50/ —
Manila Tab. Cards	65.00/ 70.00	70.00/ 75.00	65.00/ —	70.00/ —
No. 1 Col. Ledger	28.00/ 30.00	30.00/ 35.00	40.00/ —	22.00/ —
White Ledger	42.50/ 50.00	45.00/ 50.00	52.50/ —	45.00/ —
Mixed Book & Mag.†	15.00/ 18.00	17.00/ 19.00	12.00/ —	— / —
No. 1 Books‡	19.00/ 23.00	20.00/ 22.00	27.50/ —	— / —

† Includes Time & Life; no coarse groundwood. ‡ Not to exceed 10% of groundwood.

PRICES OF MATERIALS

Aluminum sulphate:		
coml. bulk, c.l. wks.	cwt.	$2.00 / —
iron-free, c.l. wks.	cwt.	3.55 / —
Casein, acid prec.:		
dom. sh. pt. c.l. (30 mesh)	cwt.	56.00 / —
Arg. ex dock	cwt.	18.75 /19.25
New Zealand	cwt.	23.50 /24.00
Caustic soda:		
c.l. wks. solid, 76%	cwt.	4.80 / —
flak. & grd. drums, c.l.	cwt.	5.20 / —
liquid 50% tanks		2.90 / —
liquid 73% tanks		3.00 / —
China Clay		
dom., dry grd., airfloat:		
325 mesh bgs., c.l. Geo.	ton	10.00 /12.00
300 mesh, bgs., c.l. Geo.	ton	13.50 /14.50
imp., white, lump, c.l. ex. dock		20.00 /35.00
Chlorine:		
single-unit tanks, works	cwt.	3.15 / —
multiple unit, 2-5 cars per yr.		5.75 / 4.05
Lime:		
hydrated, bulk, c.l. N.Y.	ton	23.55 / —
quicklime, bulk, c.l. N.Y.	ton	20.55 / —
Gum rosin:		
K, M, N, drums, c.l. Savan,	cwt.	7.75 / 7.85
Rosin size:		
70%, gum & pale paste, tank cars, south, sh. pt.	cwt.	7.51 / —
Saltcake:		
dom. bulk, 100% anh. wks.	ton	28.00 / —
Soda ash:		
light, 58% ash bags, wks.	cwt.	1.85 / —
bulk, c.l. wks.	cwt.	1.55 / —
Sodium chlorate:		
drums, c.l., wks.	cwt.	9.00 / —
drums, l.c.l., wks.	cwt.	9.50 /10.50
Sodium peroxide:		
dms., c.l. E. of Miss.	lb.	.20½/ —
l.c.l. (same basis)		.21 / .21½
Sodium silicate, 40° Be.:		
tank-cars, wks.	cwt.	1.20 / —
drums, c.l. wks.	cwt.	1.55 / —
47° Be. WW.		
tank-cars, c.l. wks.	cwt.	1.90 / —
drums, c.l. wks.	cwt.	2.25 / —
Soybean, protein:		
chem. isol., wks, c.l. bags	lb.	.19 / .23
Starches:		
Corn, multiwalls, c.l. prod. plant:		
pearl	cwt.	6.49 / 6.75
white, dextrins	cwt.	8.08 / 8.20
chlorinated	cwt.	8.25 / 8.35
potato, Idaho, c.l. wks.	cwt.	6.35 / —
East, fr. all. 50 cents cwt.		
potato, Maine, f.o.b. wks.	cwt.	6.25 / —
Sulphuric acid:		
60° Be. cbys. c.l. wks.	cwt.	2.00 / —
l.c.l. wks.	cwt.	2.30 / —
tank-cars, wks.	ton	18.60 / —
Sulphur:		
crude, c.l. mines, contract,	long ton	23.50 / —
f.o.b. vessels Gulf dock	ton	25.00 / —
Sulphur dioxide:		
liquid, coml. cyl., wks.	lb.	.10 / .12
multi-unit cars, wks.	lb.	.0535/ —
Talc, fibrous grd., bags:		
c.l. wks., N.Y.	ton	28.00 / —
l.c.l. wks., N.Y.	ton	31.00 /36.00
Titanium dioxide:		
anstase, c.l. dlvd. E. bags.	lb.	.25½/ —
l.c.l. dlvd.	lb.	.26½/ —
rutile, c.l. dlvd.	lb.	.27½/ —
l.c.l. dlvd.	lb.	.28½/ —

A New Distinction for the Paper Industry



PERKINS new design 120" face *(shown)* 12-roll SUPERCALENDER

Especially for mills that prefer an open type Supercalender

- Built in any width required
- Requires less floor space
- Rapid roll removal on open side
- Power operated platform lifts for each side of Calender
- Number of rolls in Calender can be changed by relocating hydraulic cylinder support
- Automatic lubrication of all bearings
- Calender frames have large hold-down area, eliminating any chance of vibration
- Operator has unobstructed view of sheet when Calender is in operation
- All pipe lines totally enclosed within frames

Plus — Perkins superior quality rolls, highly dependable for their performance and long life in any calender.

B. F. PERKINS & SON, INC.

HOLYOKE, MASSACHUSETTS

Southern Sales Offices — 1609 Liberty Life Bldg. — Charlotte, North Carolina

You'll Get Longer Life, Better Performance With

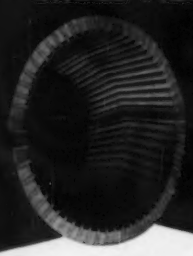
BLACK-CLAWSON X-66 JORDAN PLUGS

High strength, BlaCaloy (ductile iron) castings—precision machined. Special Mox 4 bands hold bars firmly in slots—with a full 1 inch side metal support both sides of bars—full length. Rotation of plug can be reversed for maximum jordan efficiency.

Fillings available in all materials. Full length beads on each side of bars prevent spacers from rising.

Super-Rigid

BULLDOG SHELL FILLINGS



Write for Bulletin 22

The original pre-assembled filling—for all makes of jordans.

Assembled in special jigs for rigidity and perfect symmetry. Every bar and spacer keyed with heavy bands and reinforced for maximum strength.

Shipped to You in a Strong Fibre Container

Lighter, easier and safer to handle. Fillings stay clean and dry. Facilitates storage and inventory checks.

Available only from:

THE BLACK-CLAWSON COMPANY

SHARTLE DIVISION

MIDDLETOWN, OHIO

OBITUARIES

John F. Schneider, 84, former chief engineer of River Raisin Paper Co. from 1910 to 1949, died June 16 in Flower Hospital, Toledo, Ohio, where he had been for five weeks.

Brandon R. Millikin, 89, Ohio lawyer and chairman of the board of Beckett Paper Co., died June 17 at his home in Hamilton, Ohio. He had served as a director of Crystal Tissue Co., Middletown, for 15 years before retiring earlier this year.

Stanley E. Breuleux, 68, who retired in 1956 after 42 years as treasurer and assistant secretary of the Philip Carey Manufacturing Co., Cincinnati, Ohio, died June 18 in Christ Hospital, Cincinnati.

Figures of the Week

PAPER PRODUCTION RATIO REPORT—American Paper & Pulp Assn. Figures

(Production as per cent of normal capacity)

COMPARATIVE WEEKLY SUMMARIES

	May 24	May 31	June 7	June 14	June 21
1958	85.7	81.3	82.2	87.4r	88.2
	May 25	June 1	June 8	June 15	June 22
1957	94.9	90.4	94.1	94.8	92.1

r Revised.

COMPARATIVE MONTHLY SUMMARIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1958	86.9	89.5	89.5‡	87.4‡	86.4‡	—	—	—	—	—	—	—	—
1957	94.2	97.0	97.1	94.0	94.6	93.3	75.6	90.7	86.0	93.0	90.7	81.5	90.9

‡Preliminary.

COMPARATIVE YEARLY SUMMARIES

	1951	1952	1953	1954	1955	1956	1957	1958
Year to Date	101.7	93.9	94.2	93.5	95.8	101.2	94.6	87.1
Year Average	98.0	88.6	92.3	91.6	94.0	97.9	90.9	

All of the above data is based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available.

PAPERBOARD OPERATING RATIOS†—National Paperboard Assn. Figures

COMPARATIVE WEEKLY SUMMARIES

	May 24	May 31	June 7	June 14	June 21
1958	85	83	77	90	88
	May 25	June 1	June 8	June 15	June 22
1957	95	88	86	94	93

COMPARATIVE MONTHLY SUMMARIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1958	80	86	88	84	84	—	—	—	—	—	—	—	—
1957	91	94	94	92	93	91	72	94	91	97	92	79	90

† *Percents of operation based on "Inch-Hours" reported on a 6-day basis.*

SUMMARY OF PAPERBOARD STATISTICS—National Paperboard Assn. Figures

ITEM	THIS WEEK ENDING June 21, 1958	LAST WEEK ENDING June 14, 1958	CUMULATIVE TO DATE Jan. 1 to June 21, 1958
% Activity	88%	90%	85%
	Tons	*Tons*	*Tons*
Total Production	270,117	200,704	6,402,840
Liner	88,702	107,616	2,093,985
Corrugating Material	37,894	43,624	944,181
Chip & Filler Board	5,355	5,446	117,333
Total Containerboard	131,951	156,686	3,155,499
Folding	55,302	51,047	1,265,267
Set-Up	11,361	10,791	257,117
Special Food Board	27,476	25,924	612,756
Other	44,027	46,256	1,112,201
Total Boxboard	138,166	134,018	3,247,341
Total Orders	*Tons*	*Tons*	
Received	253,065	271,307	
Unfilled End of Week	366,756	384,471	

FIRST

NOW — Allis-Chalmers Vibrating Screens

FLOAT ON AIR

NEW cars, modern trucks and trains utilize air springs for the smoothest, best controlled ride obtainable. Now Allis-Chalmers has applied the *same type air springs to vibrating screens* to provide greatly improved screen performance.

For complete information, see your nearby A-C representative, or write Allis-Chalmers, Industrial Equipment Division, Milwaukee 1, Wis. Ask for Bulletin 07B8931.

A-C ALLIS-CHALMERS

ALLIS-CHALMERS

A-5662

An expert in check-out helped us check up

This test pilot of ours has checked out every new design we've had in the last two years. His business is finding answers to questions. But last week he asked *us* one.

"Why can't we rig it so I can buy U. S. Savings Bonds out of my salary, automatically?" he asked. "I want to save, but I keep forgetting about it."

We told him, of course, that we've had Payroll Savings for years. Within minutes his card was signed and he was brought into the Plan. Then we decided to check up and see how many other people on our staff had never heard about the Plan. There were quite a few.

A telephone call to our State Savings Bond Director was all we needed. He supplied us with the latest booklets, folders and forms. Then he conducted a survey straight through our company and put an application blank in the hands of every single employee.

There wasn't a bit of pressure about this information campaign, but the way our people responded was inspiring. They proved that the average American wants the fine investment security that U. S. Savings Bonds provide.

Today there are more Payroll savers than ever before in peacetime. Your State Director will be happy to help you install a Payroll Savings Plan or build enrollment in one already existing. Look him up in the phone book or write: Savings Bonds Division, U. S. Treasury Dept., Washington, D. C.

PAPER TRADE JOURNAL

THE U. S. GOVERNMENT DOES NOT PAY FOR THIS ADVERTISEMENT. THE TREASURY DEPARTMENT THANKS, FOR THEIR PATRIOTISM, THE ADVERTISING COUNCIL AND THE DONOR ABOVE

On "special assignment" to you: Rayonier's wood pulp sales team (left to right) George E. Durkee; Ted D. Bielfeld; Arthur B. McCormick, Jr.; S. Earll Church; Dan McGillicuddy, Jr.; W. H. Backer; and George B. Creamer.

THE TEAM

to give Rayonier wood pulp customers an edge on their competition

These gentlemen make up Rayonier's wood pulp sales team, ready to depart on their "special assignment" to you. As recently reported, we have a long-term commitment to the paper industry. Our wood pulp sales team, we submit, is additional evidence of Rayonier's purpose: to serve you with quality sulfate pulps—both hardwood and softwood—from our Southeast mills; and with sulfites from the Northwest and Canada . . . today, tomorrow and during the years ahead.

Our team's first assignment: to help you derive full benefits and profits inherent in our complete line of wood pulps. These men, experts all, know your industry as well as any raw material producer can know an industry he serves. They are strongly supported by Rayonier Research. And at their instant call: our "Technical Service," ready to lend special assistance on our pulps anywhere, any time.

Our team wants more than spot tonnage orders and short-term commitments. We look for repeat orders and long-term relationships that are more rewarding to us — and to you.

This "special assignment" team is another reason why Rayonier wood pulp customers have many an edge on their competition.

RAYONIER

NATURAL RESOURCES CHEMISTRY

Rayonier Incorporated, Executive and general sales offices:
161 East 42nd Street, New York 17, N. Y.

Mills: Fernandina Beach, Fla.; Jesup, Ga.; Hoquiam, Port Angeles and Shelton, Wash.; Port Alice and Woodfibre, British Columbia.

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ENGINEERS

Process Studies, Design, Specifications and Construction Supervision

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Steam, Hydraulic and Electrical Engineering Reports, Consultation and Valuations

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Engineers • Designers • Consultants

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NEWS OF SUPPLIERS

L. B. Wohlgemuth
Babcock & Wilcox

Babcock & Wilcox Co. has appointed Leon B. Wohlgemuth as general sales manager for its Tubular Products Division. Prior to the appointment, Mr. Wohlgemuth was sales manager of middle states district sales offices.

Roots-Connersville Blower Division of Dresser Industries Inc., has appointed W. W. "Win" Harris as vice president-marketing. He is resigning from General Electric Co. to assume his new assignment.

R. T. Cathey
Bailey Meter

R. L. Chamberlin
Research-Cottrell

Research-Cottrell Inc., Bound Brook, N. J., manufacturers of industrial gas cleaning equipment, have appointed Ralph L. Chamberlin director of engineering. He has been employed by Research-Cottrell in various engineering capacities since 1934.

Bailey Meter Co., Cleveland, Ohio, has appointed R. T. Cathey district manager of its Dallas district. He succeeds F. D. Krusemark who has resigned. He joined Bailey Meter as a cadet engineer in 1947, and was assigned to the Charlotte, N. C. district in 1948. In 1955 he was named an application engineer in the company's Pulp & Paper Division.

Solvay Process Division, Allied Chemical Corp., has appointed Peter J. Cambourelis as technical assistant to the Director of Product Development.

Oakite Products Inc. has appointed J. Justin Basch to the new position of marketing vice president.

Mr. Basch, formerly vice president for research and product development, will now be responsible for sales, engineering, advertising, and marketing research as well.

Chemical Linings Inc., Watertown, N. Y. has named as president Murray H. Bennett, formerly chairman of the board. T. E. Detcher was named vice president and E. A. Branche treasurer.

C. Bremer
Oakite

B. Loskot
Hudson Sharp

Oakite Products, Inc. has named Dr. Clarence Bremer, formerly director of research, technical director. He will be responsible for the company's research and product development and technical service laboratories. A member of the company's board of directors since 1956, Dr. Bremer has been with Oakite since 1942.

Hudson Sharp Machine Co., Green Bay, Wis., has appointed Bart Loskot sales engineer with the company's eastern sales district. He will specialize in the sales and service of printing presses, laminators, waxers, embossers and other special converting equipment.

Mr. Loskot will headquarter at Hudson Sharp's eastern sales office at 55 West 42nd St., Room 1433 Bryant Bldg., New York 36, N. Y. Telephone Longacre 4-2877. Hudson Sharp is a part of the Packaging Machinery Div. of Food Machinery & Chemical Corp., San Jose, Calif.

Mosstype Corp. has appointed Francis J. Wible to its sales-service staff to serve converters in the greater Philadelphia area. Mosstype, which makes rubber printing plates, "D-Mount" cylinders and Mounter-Proofer machines is located in Waldwick, N. J.

ALBACEL & ASTRACEL

CHLORINE DIOXIDE BLEACHED SOFTWOOD SULPHATE

CHLORINE DIOXIDE BLEACHED HARDWOOD SULPHATE

Balanced Paper-Grade Pulps Created by Papermakers for Papermakers

Throughout the free world, papermakers use and like Riegel's Albacel and Astracel — paper-grade pulps that provide the right balance of all important qualities — brightness, cleanliness, strength, formability and proper bonding characteristics.

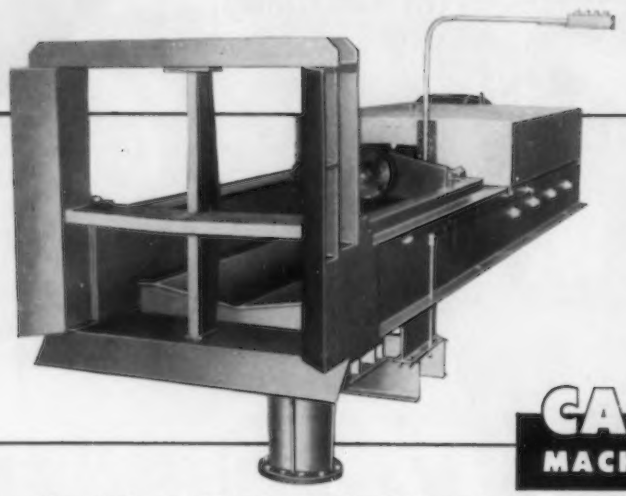
RIEGEL PAPER CORPORATION

260 MADISON AVENUE, NEW YORK 16, N. Y.

QUARTER LOGS WITH ONE STROKE

Carthage Hydraulic Splitter

Steel-Plate Enclosed,
Push-Button Controlled



ONE stroke — not three — quarters the log and ejects it so that the Carthage Hydraulic Splitter is always clear for incoming logs. Three-axe head (splits in 1/6ths) also available. Heavy-duty construction. Steel-plate enclosed to protect working parts. Push-button-operated. Interlocking safety controls. Positive, safe, trouble-free operation. Range of sizes for logs to 38" dia. and 9' long. In successful operation since 1950.

CARTHAGE MACHINE COMPANY CARTHAGE, NEW YORK

Manufacturers of Log Barkers, Log Splitters, Log Chippers, Slab Barkers, Slab Chippers, Chip Screens

John W. Rogers	**Ed Crowley**	**M. A. Bell**	**R. K. Strapp**
Carthage, N. Y.	Atlanta, Ga.	Box 490	1645 Blvd. Ed. Laurin
Ph. 1755	Ph. POplar 6-3209	Birmingham, Ala.	Montreal, Que.
		Ph. LYric 2-1042	Ph. Riverside 7-5103

Jordan Shell and Plug Fillings

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POSITIVE

Reg. U. S. Pat. Off.

High Speed Disc Refiner

THE BAHR BROTHERS MFG. CO.

MARION, INDIANA, U. S. A.

PRACTICAL PAPER TECHNOLOGY

by William Bond Wheelwright

This book begins with a survey of "Progress in the Paper Industry" and ends with a list of books recommended for collateral reading. The intermediate chapters are entitled: "How to Judge Paper"; "Physical Aspects of Paper"; "Practical Manual and Visual Tests"; "Essential Facts About Papermaking"; "Coated, Glazed and Specialty Papers"; "Permanence of Paper"; "Paper Difficulties in Converting"; "Paper as a Medium for Printing"; "Letterpress Printing"; "Offset Lithography"; "Intaglio Processes."

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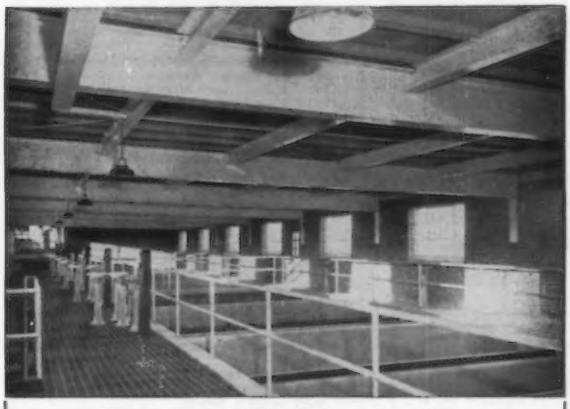

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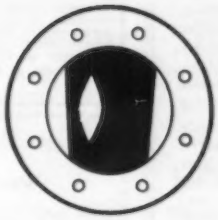

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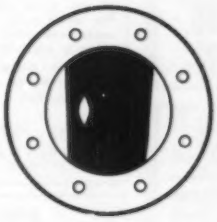

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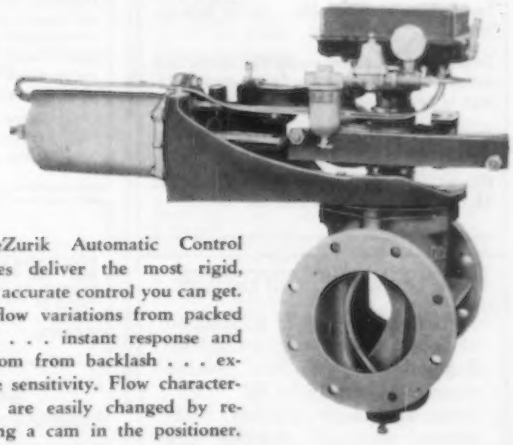

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Age 30-40. For Glassine Greaseproof Mill. Middle Atlantic Area. Ability will determine salary. Give full details in first letter. Address Box 58-163 care Paper Trade Journal.

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Wanted by manufacturer of paper and film bag machinery and printing presses.

Located in pleasant New Jersey community.

Degree not necessary—only the ability and practical background for independent design of converting machinery.

Excellent opportunity for capable man. Salary open.

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To take full charge of production of light-weight specialties in New England Mill with two cylinder machines. Age 35 to 45. Extensive paper making background required. Address Box 58-164 care Paper Trade Journal.

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Excellent opportunity for mechanical engineer with two to six years experience. Some paper mill experience desirable. Expanding New England specialty mill. Plant engineering and maintenance. Unusual benefits including profit sharing. Salary open. Inquiries held in confidence. Our employees know of this opening. Reply with detailed resume. Box #58-168 care Paper Trade Journal. Jy-7

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Accountant, hvy. paper mill experience, security, good salary and excell. chances for advancement; Chemists and Chemical Engineers; several Mechanical Engineers as plant engineers and assistant plant engineers, respectively; Finishing Room Superintendent, knowl. of conveyor systems; Calender and Rewinder Department Supervisor, fine chance for advancement; Paper Mill Superintendents; Plant Superintendent for envelope, stationery etc. mfr., knowledge of time study an asset.

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Must have experience in machine design and be able to handle drafting and layout of complete paper machines and auxiliary equipment for paper mills. Would consider practical engineer with wide experience and initiative. We offer good salary and opportunity to become executive of fast growing paper machinery manufacturing business.

Must be capable and willing to work for opportunity to advance to a permanent executive position.

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Graduate Mechanical Engineer experienced in the operation of Fourdrinier paper machines, refining and related equipment for large expanding and progressive mill in Middle Atlantic States. Under 35 years of age. Good salary and excellent opportunity for advancement. Give detailed resume of experience. Send resume to

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West Virginia Pulp & Paper Co.
Luke, Maryland

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"Midwest paperboard and corrugated manufacturer has openings for Chemists or Chemical Engineers with paperboard experience or pulp and paper school graduates for research and development in Central Laboratory and mill control work. These positions require men who are responsible and have initiative. Send complete resume to:

Central Fibre Products Company
Technical Director
Quincy, Illinois"

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PLANT SUPERINTENDENT FOR INSULATION BOARD PLANT IN NORTH CENTRAL STATES. MUST BE THOROUGHLY EXPERIENCED IN ALL PHASES OF MILL OPERATIONS. GIVE FULL DETAILS IN FIRST LETTER.
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HAVE AVAILABLE:

PRINTING PRESSES

1—54" 1-color Rotogravure Press
1—49" 1-color Rotogravure Press
1—42" 2-color Rotogravure Press
1—36" 3-color Rotogravure Press
1—36" 3-color Flexographic Press
1—31½" 4-Color Heinrich Flexographic Press.
1—31" two color Wolverine Flexo-Printer
1—30" 4 Color Kidder Flexographic Press
1—30" Kidder 6 station Flexographic press
1—26" 4 color Kidder Flexographic.
1—39½ Hobema (German) Press, 3 colors Flexo, 1 color gravure.
1—24" 4-Color Kidder Celloprinter
2—12 x 12 and 1—9" x 12" New Era Presses
1—7" Young Label Printer

TAILPRINTERS

1—32" 2-color 8 pitch.
1—30" 2-color Dietz 10 Pitch.
1—16" 2-color Potdevin 8 Pitch.

POWER PAPER CUTTERS

Seybolds: 65" & 52" Model CFF with auto spacing air table & Warner elec. dr. 41" Seybold Saber; 56" & 64" Precision: 50", 56" & 65"—10Z; 60"-20th Century; 35" and 84" Dayton, 6Z 65" Holyoke. Sheridan: 36" new model, Oswego: 44", 38", & 34", 54" heavy duty.
1—52" Lawson, Auto Spacer.

CAMACHINES

1—60" Cameron Type 42, for small rolls.
1—72"—10-04 Shear Cut
1—72"—10-5 with water cooled brake
1—66" & 2—52" 9-5.
1—62" 26-2A with 100 score cutting units
1—62" 26-3A.
1—62"—40—1—AF
1—52", & 1—42", Model 24-7.
1—42" Type 9-5-A Roller Bearing 1500 fpm.
1—42" Type 24-2A
1—30", 1—42", 1—62" Type 6

OTHER SLITTERS

1—60" Langston Type A.
1—48" Langston Heavy Duty Board Slitter.
1—45" Raf Duplex Winder.
1—42" Kidder Merchant Model
1—40" Model B Faies Shear Cut
2—24", 1—30", 1—36" & 1—40" Kidder S.L. Shear cut

MISCELLANEOUS MACHINES

1—54" and 1—72" Mayer Equalizer Waxing machines.
1—54" Coating & Gumming Machine, complete—for Kraft paper.
1—52" Perry Liner with Reeves Drive.
1—48" Asphalt Saturating Machine, complete—for Fibreboard, Felt or Kraft Paper.
1—37" & 1—60" Hot Melt Coaters & laminators.
1—Laminator, with 10 dryers 36" x 49".
1—24", 1—30" & 1—46" Waldron Reverse Coater.
1—Knowlton & 1—Langston Tube Winder with Recutter
2—81" Dietz Facial Toilet Tissue Rewinders.
1—81" Hudson Sharp Toilet Converter for both toilet & towels
4—Hamblet Sheeters 42", 65", 84" & 100"
1—45" Beck sheeter, Model CCSH
1—30" Peters Sheeter, Model UD.
3—Schultz continuous roll winders. Two—12", One 18".
2—Model B, 10 Baqprint machines.
Die Presses: 1—60" x 28", Type UA, 2—17" x 42" Seybolds.
2—24" x 38" Kidder Die Presses
1—2 Web, 1—3 Web Paper Converting Co.'s. Jr. Dispenser Napkin Machines
1—Potdevin Model 111-CF & S Cellophane Bag Machine.
1—26" x 38" Thomson Eccentric Action cutting & Creasing Press.
1—Package Machinery Company Model U-4 Cellophane Wrapping Machine.
1—Hayssen wrapping machine with electric eye.
2—Simplex Model "B" Packaging Machines with Electric Eye
1—Rote Model C Cellophane Bag machine
1—Weber Model 2-CN Cello Bag Machine
1—50" Hudson Sharp Embosser-tinter.
1—48" Unicraft Embosser
3—Waldron Embossers; 1—22", 1—46" & 1—60" (latter two heavy duty)
1—30" Dornbush embosser.

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BEATERS
2—1500 lb. rag beaters, Valley Iron, bandless rolls, 54" x 48", cast iron tubs.

CALENDER STACKS
1—3 roll 30" face friction Calender Stack (Holyoke), 2 iron rolls, 1 cotton roll and 1 spare cotton roll.
1—3 roll 84" calender stack.
1—4 roll 72" Calender Stack. (Extra heavy duty).
1—5 roll 82" face.
1—5 roll 86".
1—7 roll, 84" face.

CHIPPERS
1—96" Murray 4 knife Chipper—anti-friction bearings.
1—84" 10 knife Carthage Chipper. Anti-friction bearings.
24—Chipper Knives 15⅞ x 8¼, 2 slot.

COUCH ROLLS
4—Practically new, rubber couch rolls, 18" diameter x 78" face.

CREPING DRYER
1—48" diameter x 120" face, with frames, bearings, doctor blade and drive.

CRUSHER & HAMMERMILL
1—Murray Chip Crusher.
1—Jeffrey Hammermill (18" dia. rotor).

CYLINDER MOLDS
8—36" diameter x 94" face, hollow shafts. Very good condition.
1—30" diameter x 72" face.
1—30" diameter x 92" face.
1—36" diameter x 84" face.
2—36" dia. x 54" base
2—36" diameter x 110" face.
3—36" diameter x 90" face, 18" diameter couch rolls.
1—60" dia. x 170" face.

DIGESTERS
1—Biggs 12' 6" (Globe).

DISINTEGRATOR
1—Shartle 8" disintegrator (new) with 125 horsepower induction motor. (Totally enclosed).

DRIVES
1—Rice-Barton hypoid enclosed drive, 4 to 1 ratio.
1—#6 Reeves vertical—anti friction bearings, totally enclosed.
1—Sandy Hill right angle 50 H.P. (4.75 to 1)
1—Jones 21 H.P., ratio 10 to 1 (enclosed angle drive).
1—#4 Reeves Drive.
2—Waterbury Hydraulic Variable speed line shaft drives (from 40 to 100 H.P.).
3—Rice Barton enclosed drives, double reduction (14 to 1 one end, 4 to 1 other end).
1—Beloit hypoid enclosed drive 60 h.p. 5 to 1 ratio.

DRYERS
1—28" diameter x 84" face.
2—30" diameter x 40" face, with bearings.
2—30" diameter x 48" face, with bearings.
60—36" diameter x 84" face, complete with frames, gears & bearings.
4—48" dia. x 52" face with frames, gears, bearings.
1—36" diameter x 44" face.
3—36" diameter x 76" face.
6—36" diameter x 80" face.
22—28" diameter x 40" face with frames, gears and felt rolls.
1—16" diameter x 54" face (steel.)
6—48" diameter x 130" face.
2—Cooling Drums, bronze, 36" x 128", with frames, gears and necessary rolls to make up the unit. (After dryers)

EMBOSSING CALENDERS
1—43" 3-Roll Embossing Calender.
1—62" 2 roll Embossers.

EXTRACTOR ROLL
1—Extractor roll, 26" diameter x 104" face.
1—Rice Barton & Fales, Extractor Roll, 26" diameter x 104" face.

FELT CONDITIONERS
1—Scofield, 125" face.
1—Scofield, 154" face.

FELT ROLLS
50—Brass Felt Rolls, with Brass Journals, 72" face x 5" dia.

FLAT SCREENS
1—8 Plate "Packer".
1—12 Plate "Packer".
1—16 plate "Packer" late type roller shoes.

JORDANS
1—Noble & Wood Mammoth.
1—Noble & Wood Monarch, Type D.

LABORATORY EQUIPMENT
1—Bauer Fibre Classifier, monel tank.
2—12" x 12" Vibrating Screens, stainless steel.
1—basis weight scale
1—16" diameter x 24" face Laboratory High Pressure Dryer
1—Press Roll, 6" diameter, 24" Face, steam jacketted
1—8" x 8" Sheet Mold, new.
1—¼" Extruding Head.
1—2' Shartle Hydrapulper.
2—8" x 8" Sheet dryers.
1—12" x 12" sheet dryer.
1—6" diameter Hydraulic Press.
1—25 lb. Valley Laboratory Beater, with washer.
1—Vissolver.
1—Glarometer.
1—15 lb. Dilts Hollow Mid Feather Laboratory Beater, antifriction bearings. Complete with washer.
1—Alsop Filter Press.
1—Scott Tensile Tester.
1—Experimental Digester (High Pressure).

LAMINATING MACHINES
2—84" Asphalt laminators.

MISCELLANEOUS
1—#1 Miami Selectrap.

PACKAGING MACHINE
1—Morpac Packaging Machine (Details on request).

PRESS ROLLS
2—Chilled iron, chrome plated 9" x 72".
1—Chilled iron, chrome plated 12" x 100".
1—Chilled iron, chrome plated 10" x 74".
8—sets (1 rubber, 1 chrome steel) 74" face x 15" dia., complete with bearings.

PULPERS
4—Dyno-Pulpers.

PUMPS
1—Morris-10,000 g.p.m. 25 ft. head (all bronze).

REELS
1—86" 2 bowl reel.
1—84" 3 bowl revolving reel.
1—100" Rice Barton 2 bowl Reel, heavy duty.
1—123"—3 bowl Revolving Reel.
1—134"—2 drum.
1—72" Downingtown Reel, 2 bowl.

REFINERS
1—#2 Claflin refiner.
1—Dilts Classifiner, practically new.
"Rice-Barton" details on request.
1—Dilts, stainless steel filling, anti-friction bearings, excellent condition, including motor.

REGULATOR
1—Bird Consistency Regulator.

ROLLS
Felt, Table, Press, Breast, Couch, etc. Various sizes and types. (Bronze, Rubber, Iron, etc.)

ROTARY SCREENS
6—Trimbey Sr. Pulp Screens.
1—#1A Bird, copper vat.
2—APMEW Rotary Pulp Screens.

SAVEALLS
1—#5 Bird Saveall.
1—LaMorte, 48" diameter x 82" face cylinder mold.

SCREEN PLATES
Bird Rotary screen plates.

SHEETER
1—132" Hamblet heavy duty duplex sheeter, anti-friction bearings throughout, including layboy and backstand.

SHREDDERS
1—16" "Swift" Paper Shredder.

SLITTERS & WINDERS
1—32" Cameron Type 9.
1—42" Cameron Type 9.
3—42" Cameron Type 6.
1—42" Cameron Type 8.
1—42" Cameron Type 26-2A.
1—42" Cameron Type 26-3A (Duplex).
3—50" Cameron Type 6.
1—62" Cameron Type 6.
1—62" Cameron Type 8.
1—72" Cameron Type 9.
1—84" Cameron Type 12
1—30" Langston.
1—86" Two Drum Moore & White 50" diameter rewind.
1—96" 4 drum Moore & White winder.
1—128" Beloit Shear cut winder, drive and variable speed motor.

SLITTING DEVICE
84"—Quick change slitting device shear cut, complete, practically new.

STEAM JOINTS
18—3" Johnson steam joints (new).

STOCK PUMP
1—10 x 20 Shartle Triplex.

SUCTION BOXES
2—150" Stainless steel Suction Boxes.

SUCTION COUCH SHELL
1—Downingtown suction couch shell only, 127½" face x 26" diameter.

SUCTION COUCH ROLLS
1—Beloit, 36" diameter x 246" face, SKF bearings.
1—Millspaugh, 30" diameter x 154" face, trunnion anti friction bearings.

SUCTION FELT ROLLS
1—Gilbert & Nash 122" face.
1—Beloit Rubber Covered Suction Felt Roll 109" face x 20½" diameter.

SUCTION PRESS ROLL
1—Sandusky 126" drilled face, suction press roll 18" diameter.

SUCTION PRESS SHELL
1—14" diameter x 100" drilled face, suction Press Shell only.

SUPER CALENDER STACK
1—9 Roll 56".

TABLE ROLLS
22—Rubber Covered 10" diameter x 246" face.
30—4" dia. x 130" face (will cut to size).

TOILET WINDERS
2—72" Hudson-Sharp (Surface type winder).

TRIMMERS
1—84" Seybold.

VACUUM PUMPS
3—#1 Nash Hytor vacuum pumps.
1—#7 Nash Hytor, complete with 75 HP synchronous motor.
2—Connersville, 14 x 20.
2—H-7 (one with motor).
1—#3 Nash Hytor.
3—L-5 Nash Vacuum Pumps.
1—L-6 Nash Vacuum Pump.

VATS
2—D. J. Murray Co. Vats, iron ends, for 42" x 120" cylinder molds, overflow and counterflow.

VIBRATING SCREENS
2—Hummer electric Vibrating Screens, stainless steel, new.
1—Selectro 2 stage, 5 ft. x 10 ft.
1—36" x 48" Vibrating Screen.

WEB GUIDES
1—72" Stanford Constant Tension Unit, air operated.
1—110" Stanford Constant Tension Unit, air operated.

WET MACHINE
1—72" Wet Machine

YANKEE DRYERS
1—140" face x 12' dia. anti-friction bearings & stands.
1—84" diameter x 56" face.

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EXECUTIVE—Conversion of Boards and Papers. Currently Works Manager; desire change for challenging opportunity. Highly successful record in organization, production and development. Address Box 58-122 care Paper Trade Journal. Jy-28

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The most economical filling that can be put in a mortise wheel

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NASH VACUUM PUMPS

In Stock, following sizes:
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Paper Mach'y Dept.
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FOR SALE

158 foot Jeffrey Paper Roll Conveyor—rails 20½", pitch 25° with 2-15 HP AC motors and reversable switch
54" Hamblet 2 knife sheeter w/layboy
65" Seybold Power Cutter
74" Seybold 10Z Power Cutter

Apex Ptg. Machy. Co., Inc.
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For Sale

Paper Mill For Sale in the East

84" Trim Yankee Fourdrinier machine suitable for cellulose tissue and wading. Reasonable price.

For further particulars address box number 58-171 care Paper Trade Journal.

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2 Cottrell Printing Presses

One 2 color, sheet fed, oil ink, rubber plate press, complete with drive & spare rollers. Prints bags or box blanks. Bargain @ $2500—One 3 color—same description. Bargain @ $4000.

LODI LAMINATORS INC.
165 Main St., Lodi, New Jersey

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Government Bids

PROPOSALS
FOR FURNISHING

PAPER AND ENVELOPES FOR THE U.S. GOVERNMENT PRINTING OFFICE

SEALED PROPOSALS will be received until 10 a. m. E. D. T., July 14, 1958, in the room of the Joint Committee on Printing, in the Capitol, Washington, D. C., for furnishing the paper for the public printing and binding, and blank paper and plain envelopes for the use of the Government departments and establishments in the District of Columbia, for the terms of 3 months for paper and 6 months for envelopes beginning August 1, 1958, deliveries to be f. o. b. Government Printing Office Warehouse, or warehouse siding, Washington, D. C. The proposals will be opened in the presence of and the award of contracts made by the Joint Committee on Printing to the lowest and best bidders for the interest of the Government whose bids are in conformity with the requirements of the proposals. The committee reserves the right to reject any or all bids, or to accept any bid or any part and reject the other part, if, in its opinion, such action would be in the interest of the Government.

Blank proposals containing the instructions, schedule, and specifications may be obtained by addressing Raymond Blattenberger, Public Printer, Washington, D. C.

Contracts will be entered into for supplying the quantities required, whether more or less than the estimates, as provided in paragraph 26 of the Instructions.

The approximate estimated quantities set forth in detail in the schedule comprise:

PAPER

1,970,000 pounds machine-finish book paper; 40,000 pounds machine-finish book end paper; 80,000 pounds english-finish book paper; 8,630,000 pounds offset book paper; 205,000 pounds antique book paper; 180,000 pounds supercalendered book paper; 1,691,000 pounds coated book paper; 614,000 pounds mimeograph paper; 287,500 pounds duplicator copy paper; 7,938,200 pounds writing paper; 3,710,000 pounds writing paper for offset printing; 2,500 pounds 100% fine writing paper; 665,235 pounds map paper; 341,000 pounds manifold paper; 1,615,400 pounds bond paper; 7,500 pounds 100% bond paper; 30,000 pounds translucent bond paper; 795,000 pounds ledger paper; 24,000 pounds 100% ledger paper; 1,695,000 pounds index paper; 355,000 pounds cover paper; 12,500 sheets cloth-lined cover paper; 25,000 pounds manila paper; 215,000 pounds kraft paper; 380,000 sheets gummed paper; 37,500 pounds blotting paper; 7,500 pounds oiled manila tympan paper; 5,000 pounds wallet board; 30,000 pounds manila tagboard; 10,000 pounds manila cardboard; 67,000 sheets railroad board; 100,000 pounds tan board; 3,610,000 pounds postal card paper; 10,000 pounds folding bristol; 55,000 sheets pressboard; 205,000 pounds newsboard;

300,000 { pounds binder's board / pounds chestnut cover board.

ENVELOPES

The approximate estimated quantities set forth in detail in the schedule comprise:

36,200,000 kraft; 12,765,000 writing, chemical wood white and colored; 125,000 writing, white 100%; 525,000 25% bond, white; 340,000 100% bond, white.

By direction of the Joint Committee on Printing.

RAYMOND BLATTENBERGER,
Public Printer.

WASHINGTON, D. C.
June 23, 1958

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BARGAINS

IMMEDIATE DELIVERY

1—66" Holyoke 9-Roll Super Calender Stack, Complete. Rebuilt and used but a short time, in A-1 condition. Drives and spare Rolls.
1—128" 8-Roll Bagley & Sewall Calender Stack, king roll 24" dia., 4 intermediate rolls 12" dia., top roll 16" dia. Heavy box frames, full set of doctors. Excellent Condition.
26—36" x 72" Complete Dryer Section, Stack, Drives, Etc.
10—48" x 150" Pusey & Jones Dryers.
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American Cyanamid Co., Dyes Dept. ..... —
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Aurora Pump Div., N. Y. Air Brake ..... —

Babcock & Wilcox Co. ..... —
Bahr Bros. Mfg. Co. 64
Bailey Meter Co. ..... —
Bauer Bros. Co. ..... —
Beloit Iron Works Co. ..41, 45, 49
Bird Machine Co. ..... —
Bixby, R. W., Inc. ..... —
Black-Clawson Co. 58
Blaw-Knox Company ..... —
Bolton & Sons 65
Borden Co. ..... —
Bowsher Co., N. P. 68
Brandon Sales, Inc. ..... —
Broughton, A. E. & Co. ..... —
Brown Company ..... —
Buckeye Cellulose Corp. ..... —
Buell Engineering Co. ..... —
Buffalo Forge Co. ..... —
Buffalo Pumps, Inc. ..... —

Cady, E. L., & Co. 48
Calgon Company .....Back Cover
Cambridge Instrument Co. ... —
Cameron Machine Co. 4
Capitol Products Corp., Read Standard Div. ..... —
Carthage Machine Co. 64
Central National Corp. ..... —
Chicago Bridge & Iron Co. ... —
Ciba Company ..... —
Cities Service Oil Co. 3
Clark-Aiken Company ..... —
Classified Advertising 66
Clearing House 66
Cleveland Crane & Engrg. Co. —
Cleveland Worm & Gear Co. —
Colonial Plastics Mfg. Co. .... —
Columbia-Geneva Steel Div., U. S. Steel Corp. ..... —
Columbia-Southern Chem. Corp. Sub. of Pittsburgh Plate Glass Co. ..... —
Combustion Engrg. Co. ..... —
Cone Drive Gears Div., Michigan Tool Co. ..... —
Consolidated Baling Mch. Co. —
Conveyair Sales Ltd. ..... —
Corn Products Sales Co. 39
Crane Co. ..... —

Davis, Frank H., Co., Inc. ... —
DeZurik Corporation 65
Diamond Alkali Co. ..... —
Dicalite Div., Great Lakes Carbon Corp. ..... —
Dierks Paper Co. ..... —
Dilts Machine Works 58
Dixie Bearings Div. of Bearings, Inc. 51
Dodge Mfg. Co. ..... —
Dorr-Oliver ..... —
Dow Chemical Co. ..... —
Dow Corning Corp. ..... —
Dowell ..... —
Draper Bros. Co. ..... —
Dryden Paper Co., Ltd. ..... —
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FabriValve Company ..... —
Fairbanks Morse & Co. ..... —
Falk Corporation ..... —
Farrel-Birmingham Co., Inc. ... —
Farval Corporation ..... —
Fife Manufacturing Co. 69
Fitchburg Screen Plate Co. .. —
Foxboro Co. ..... —
Fraser Companies, Ltd. ..... —
Frederick Iron & Steel Co. ... —
Freeport Sulphur Co. ..... —

Gaspesia Sulphite Co. Ltd. .. —
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Geigy Dyestuff Div., Geigy Chemicals Corp. ..... —
General Dyestuffs Co. ..... —
General Electric Co. ..... —
General Tire & Rubber Co. ... —
Gibbs-Brower Co. 66
Gilbert & Nash Co. ..... —
Glidden Company 43
Goodrich Industrial Prod. Co. —
Goodyear Tire & Rubber Co. . 2
Gottesman & Co. ..... —
Graton & Knight Co. ..... —
Graver Tank & Mfg. Co. ..... —
Grinnell Co., The ..... —
Gruendler Crusher & Pulv. Co. —
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Hagan Chemicals & Controls Corp. ..... Back Cover
Hamblet Machine Co. ..... —
Harbison-Walker Refractories . —
Hendrick Mfg. Co. ..... —
Hercules Powder Co. ..... —
Hooker Electrochemical Co. .. —
Huber, J. M., Corp. 7
Hudson Sharp Machine Co. .. 19
Hungerford & Terry, Inc. 65
Huyck, F. C. & Sons ..... —

Improved Machinery, Inc. ... —
International Paper Co. ..... —

Jenkins Brothers ..... —
Johns-Manville Corp. ..... —
Johnson Corp. The ..... —
Johnson, Alvin H., & Co. 48
Jones, E. D., & Sons Co. .... —

Kalamazoo Tank & Silo Co. .. —
Kidder Press Co. ..... —
Knox Woolen Co. ..... —
Koppers Company ..... —

Langston, Samuel M., Co. ..... —
Link Belt Co. ..... —
Lockport Felt Co. ..... —
Lockwood Greene Engineers .. 62
Lodding Engineering 55
L. O. F. Glass Fibers Co. .... —
Lukens Steel Co. ..... —
Lunkenheimer Co. ..... —
Lyddon & Co. ..... —

Magnus Metal Corp. ..... —
Main, Charles T., Inc. 62
Manchester Machine Co. ..... —
Marathon—A division of American Can .....36 & 37
Mead Pulp Sales, Inc. ..... —
Meincke, A. M. & Son ..... —
Merrick Scale Co. ..... —
Minneapolis-Honeywell ..... —
Mixing Equipment Co. ..... —
Moore & White Co. ..... —
Morden Machines Co. ..... —
Mt. Hope Mchy. Co. ..... —
Mt. Vernon Mills Inc. ..... —
Murray, D. J., Mfg. Co. ..... —

Nash Engineering Co. 46
National Lead Co., Magnus Metal Div. ..... —
National Starch Products, Inc. ..... —
National Tube Div., U. S. Steel Corp. ..... —
Nelson Company ..... —
New Jersey Zinc Co. ..... —
Nichols Eng. & Research Corp. —
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Nopco Chemical Co. ..... —
Northeastern Paper Sales .... —
Norton Co. ..... —

Oakite Products Inc. ..... —
Ohio Injector Co. ..... —
Olin Mathieson Chem. Corp. .....28 & 29
Osborne Paper Mill Equipt. Corp. 66

Palladino, Anthony J. ..... —
Paper Converting Machine Co. —
Parsons & Whittemore ..... —
Patterson Fd. & Mch. Co. .... —
Patton Mfg. Co. .....Front Cover
Penick & Ford, Ltd. ..... —
Perkins, B. F., & Sons, Inc. . 57
Perkins Goodwin Co. ..... —
Personnel Service Associates .. 66
Pioneer Paper Stock Co. 48
Pittsburgh Piping & Equip. .. —
Poirier Control Co. ..... —
Potdevin Machine Co. ..... —
Powell Valves 6
Price & Pierce, Ltd. ..... —
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Railway Supply & Mfg. Co. .. —
Raymond, Chas. P. Service Inc. ..... —
Rayonier, Inc. 61
Read Standard Div. of Capitol Products Corp. ..... —
Ready Power Co. ..... —
Record Fdy. & Mch. Co. .... —
Red Ray Mfg. Co. ..... —
Rice Barton Corp. 10
Riedel, Gus & Son ..... —
Riegel Paper Corp. 63
Rohm & Haas Co. ..... —
Ronningen-Petter Co. ..... —
Roosevelt Paper Co. ..... —
Roots-Connersville Blower Div. Dresser Industries 15
Ross, J. J., Co. 67
Ross-Midwest Fulton Co. 69
Ross Paper Machinery Co. .... —
Rotherm Engrg. Co. ..... —
Ruderman Mach. Exchange .. 68
Rust Engineering Co. 62
Ryerson, Jos. T., & Son ..... —

Sandoz Inc. ..... —
Sandy Hill Iron & Brass Works ..... —
Scapa Dyers Inc. ..... —
Seaboard Air Line R. R. Co. . —
Shartle Div., Black-Clawson Co. 58
Shawinigan Resins Corp. .... —
Sheffield Corp. ..... —
Shell Chemical Corp. ..... —
Shuler & Benninghofen ..... —
Signode Steel Strapping Co. .. —
Simplex Wire & Cable Co. ... 71
Sinclair Company ..... —
Sirrine, J. E., Co. ..... —
Smidth, F. L., & Co. ..... —
Soderhamn Mch. Mfg. Co. .... —
Sonoco Products Co. ..... —
Southworth Machine Co. 47
Spraying Systems Co. ..... —
Sprout Waldron & Co. ..... —
Stadler Hurter & Co. 62
Staley Mfg. Company ..... —
Stanley Steel Strapping ..... —
Stanley Works ..... —
Stebbins Engrg., Co. ..... —
Stein, Hall & Co. ..... —
Stone & Webster Engrg. Corp. —
Stowe-Woodward, Inc. 8
St. Regis Paper Co. ..... —
Sunday, Geo. M., Assoc. 66
Swenson Evaporator Co. ..... —

Taylor Instrument Co.s 54
Taylor Stiles & Co. ..... —
Tennessee Coal & Iron Co. .... —
Tennessee Corp. ..... —
Testing Machines ..... —
Texas Co. ..... —
Texas Gulf Sulphur Co. ..... —
Thiele Kaolin Co. ..... —
Thomas Paper Stock Co. 64
Thurso Pulp & Paper Co. .... —
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Walworth Co. ..... —
Weber, H. G., & Co. ..... —
West End Chemical Div. Stauffer Chem. Co. ..... —
Westvaco Chlor-Alkali Div., Food Mchy. & Chem. Corp. 31
Westinghouse Elec. Corp. ... —
West Virginia Pulp & Paper Co. ..... —
Weyerhaeuser Timber Co. ... —
Whiting Corp. ..... —
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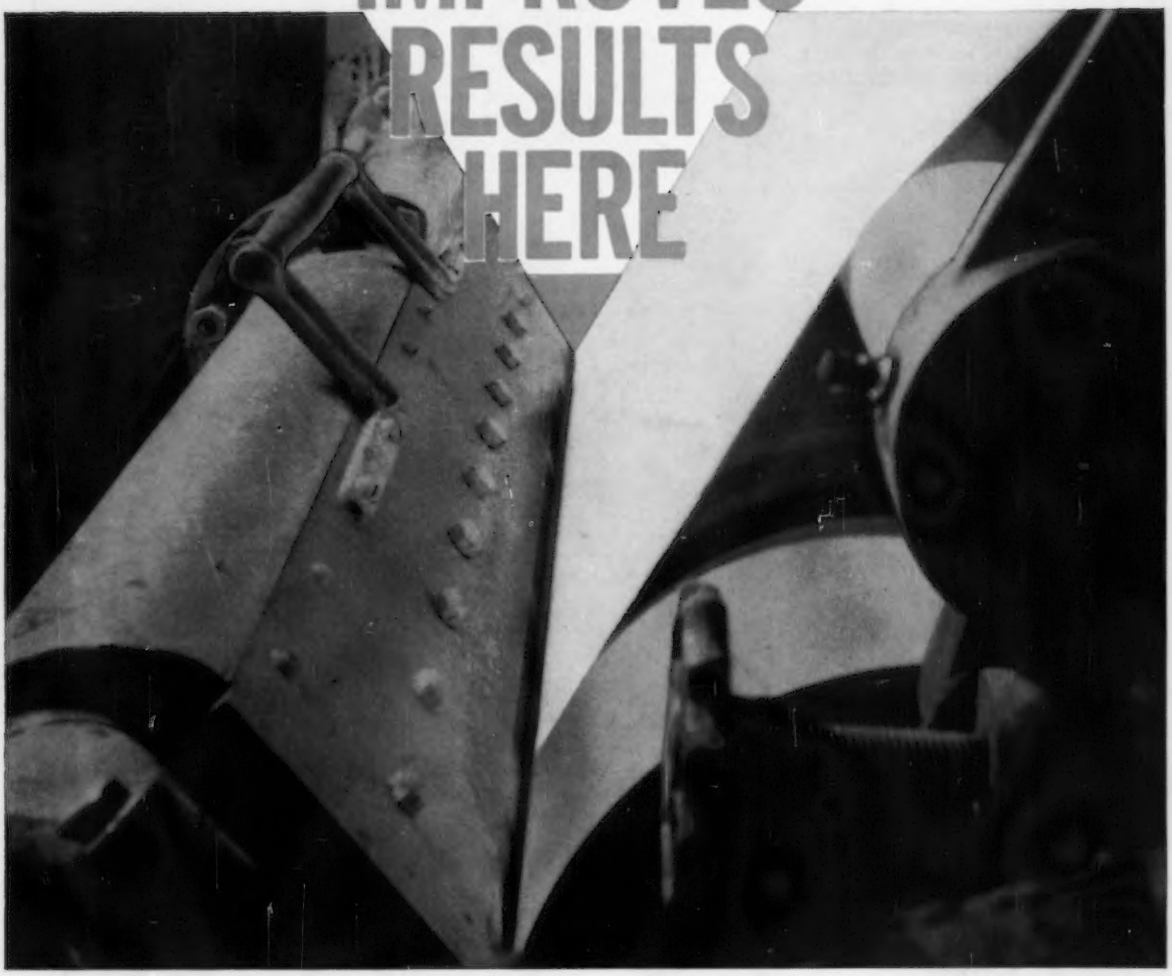

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